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FLORIDA QUARTERLY BULLETIN

January 1, 1920

DEPARTMENT OF AGRICULTURE

W. A. McRAE

COMMISSIONER OF AGRICULTURE.

REPORT OF THE CHEMICAL DIVISION.

R. E. ROSE

STATE CHEMIST.

Entered January 31, 1903, at Tallahassee, Florida, as second-class matter
under Act of Congress of June, 1900.

These Bulletins Are Issued Free to Those Requesting Them.

T. J. APPLEYARD, PRINTER, TALLAHASSEE, FLA.

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PART I

LETTER OF TRANSMITTAL AND SUMMARY OF WORK.

RULES AND REGULATIONS.

DETAILED REPORT OF ANALYSIS OF FERTILIZERS, FEED STUFFS, FOODS AND DRUGS, AND OILS.

DETAILED FINANCIAL REPORT.

514563

STATE CHEMIST'S REPORT, 1919

Tallahassee, Fla., January 1, 1920.

To His Excellency,
Sidney J. Catts, Governor,
Tallahassee, Florida.

Sir:—I have the honor to submit the following report of the Chemical Division of the Agricultural Department of the State of Florida, for the year ending December 31, 1919.

The report of the State Treasurer shows the sale of inspection stamps covering 250,613.44 tons of commercial fertilizers and cotton seed meal—
Amounting to $62,653.36

And 162,405.44 tons of Commercial Feeding Stuffs—
Amounting to $40,601.36

A total revenue of $103,254.72
paid into the State Treasury to the credit of the General Revenue Fund; from which it to be deducted the total expenses of the Chemical Division incident to the execution of the Fertilizer, Feed Stuff, Pure Food and Drug, and Immature Citrus Fruit Laws. The total expenses of the Chemical Division, as audited and approved by the State Chemist and approved by the Commissioner of Agriculture, in accordance with the opinions of the Attorney General of December 7, 1917, August 1, 1919, and October 3, 1919, being $21,440.16; showing a balance of $81.814.56 paid into the General Revenue Fund of the State. A summary of these expenses will be found on the succeeding page. A detailed financial report will be found on pages 155-163 of this report. For additional expenditures of funds charged to the State Chemist, and paid upon the approval of the Commissioner of Agriculture only, I would respectfully refer to the Report of the Commissioner of Agriculture.

Summary.

RECEIPTS AND EXPENDITURES OF CHEMICAL DIVISION, 1919.

Salary of the State Chemist	$ 3,000.00
Salary of Asst. State Chemist, Fertilizers	1,900.00
Salary of Asst. State Chemist, Food and Drugs	1,900.00
Salary of Asst. State Chemist, Stock Feed	1,900.00
Salary of Asst. State Chemist, Oils	
Salary three Food and Drug Inspectors	4,950.00
Salary Clerk Chemical Division	1,140.00
Salary Janitor	390.00
*Traveling Expenses three Food and Drug Inspectors	1,483.72
Samples and Incidentals, Pure Food Department	1,042.18
Chemicals, apparatus and incidentals, State Laboratory	1,916.74
Traveling Expenses State Chemist and Assistants	1,089.09
Postage, State Chemist	242.56
*Salaries of Citrus Fruit Inspectors	300.00
*Traveling Expenses Citrus Fruit Inspectors	134.98
*Sundries Citrus Fruit Inspectors	50.89
Total expenses Chemical Division	$21,440.16
To credit General Revenue	$81,814.56
Gross Revenue	$103,254.72
Appropriation, 1919	$23,810.00
Expenses Chemical Division	$21,440.16
Unexpended appropriation	$ 2,369.84

*See page 5.

SUMMARY OF ANALYTICAL REPORT, 1919.

The following analyses were made during the year:

Official samples fertilizers	4
Special Samples Fertilizers (sent in by citizens)	284
Official samples feed stuff	162
Special samples feed stuff (sent in by citizens)	33
Official Food and Drug samples	106
Special food and drug samples (sent in by citizens)	94
Official samples citrus fruit	158
Special samples citrus friut	257
Gasoline	321
Kerosene	59
Water samples	5
Miscellaneuos samples (sent in by citizens)	42
Total number analyses	1,525

SPECIAL SAMPLES DRAWN BY PURCHASERS.

The Florida law is peculiar in this respect, permitting citizens, purchasers of lawful feeds and fertilizers that are duly registered, under oath with the Commissioner of Agriculture as evidenced by the guarantee tag and stamp upon each package, to draw samples of the same, according to law, rules and regulations, to prevent the submission of spurious samples, and obtain, without cost, a certificate of analysis by the State Chemist. In case of deficiency in the goods so purchased, the sample being properly drawn, packed and transmitted, according to law and regulations, the purchaser can, upon proof of the fact, obtain a judgment for double the amount of the price of the goods, while the dealer will be subject to the penalties of the law. This provision of the law, however, does not apply to illegitimate goods sold by unregistered, unlawful dealers or their agents; consumers who purchase such unlawful goods having no recourse under the law, for damages.

FERTILIZERS SUMMARY

Frank T. Wilson, b. s., Analyst.

Official samples fertilizers	4
Special samples fertilizers	284
Total analyses Fertilizer Department	288

SUMMARY COMMERCIAL STOCK FEED.

E. PECK GREENE, B. S., ANALYST.

The following analyses have been made during the year:

Official samples feed stuff	162
Specials samples feed stuff	33
Total analyses Feed Department	195

The average composition of the official samples was as follows:

	Protein	Starch and Sugar	Fats
Official analysis	16.14	50.65	3.59
Guaranteed analysis	15.27	50.43	3.23
Average excess	0.87	0.22	0.36

We find the official samples of feed stuffs exceeded the guarantee 0.20% (twenty points), as follows:

In protein	117 samples, or 72.11%
In starch and sugar	71 samples, or 43.82%
In fats	86 samples, or 53.08%

There was a deficiency of 0.20% (twenty points) as follows:

In protein	19 samples, or 12.38%
In starch and sugar	66 samples, or 40.74%
In fats	40 samples, or 24.69%

FOOD AND DRUGS SUMMARY.

A. M. HENRY, B. S., ANALYST.

Official food and drug samples	106	
Special food and drug samples	94	
Water samples	5	
Total food and drug samples		205
Official citrus fruit samples	158	
Special citrus fruit samples	257	
Total citrus fruit samples		415
Grand total food and drug samples		620

CITRUS FRUIT SUMMARY.

INSPECTORS	SPECIAL		OFFICIAL		TOTALS
	Grapefruit	Oranges	Grapefruit	Oranges	
Henry, A. M., Tallahassee	8	1	9	0	18
Gibson, W. C., Miami........	28	2	74	1	105
Johnston, C. E., Daytona....	41	30	16	9	96
Lewis, J. T., Williston........	46	42	17	12	117
Robson, Reid, Lakeland	32	28	11	18	79
Total number of samples for 1919	155	103	127	30	415
Total number of samples for 1918	239	112	67	25	443
Total number of samples for 1917	135	24	163	10	332
Total number of samples for 1916	238	87	199	25	549
Total number of samples for 1915	......	......	......	......	304
Total number of samples since adoption of U. S. Standard	......	......	......	......	2042

COMPARISON OF 1916, 1917, 1918 AND 1919.

	1916	1917	1918	1919
Cars of grapefruit shipped to Nov. 5.....	765	492	1295	1533
Cars of grapefruit sampled to Nov. 5....	199	163	67	235
Per cent of cars of grapefruit sampled...	28.22	33.13	5.17	15.33
Per cent of grapefruit sampled immature	16.00	3.00	15.41	1.17
Cars of oranges shipped to Nov. 5.......	409	82	801	563
Cars of oranges sampled to Nov. 5......	25	10	25	25
Per cent of oranges sampled immature..	8.00	18.00	0.00	4.95
Cars of citrus friut shipped to Nov. 5....	1104	574	2096	2096
Cars of citrus friut sampled to Nov. 5....	224	173	92	260
Per cent of cars of citrus fruit sampled..	20.11	30.14	4.39	12.40
Per cent of citrus fruit sampled immature	15.18	3.78	12.04	1.45

SUMMARY OF OIL ANALYSIS.

E. T. CASLER, B. S., Analyst.

Gasolines analyzed before the enforcement of the law	293	
Official Gasoline samples analyzed	28	
Total Gasoline samples analyzed		321
*Kerosene samples analyzed before the enforcement of the law	51	
Official Kerosene samples analyzed	8	
Total kerosene samples analyzed		59
Total oil samples analyzed		380
Illegal gasoline samples before enforcement of the law	82	
Illegal gasoline samples before enforcement of the law		27.99%
Legal gasoline samples before enforcement of the law		72.01%
Illegal official gasoline samples		00.00%
Legal official gasoline samples		100.00%
Illegal kerosene samples before enforcement of the law		00.00%
Legal Kerosene samples before enforcement of the law		100.00%
Illegal official kerosene samples		00.00%
Legal official kerosene samples		100.00%

*The oil companies were given ninety days from September 2d, 1919, (date Gasoline Inspection Law became effective) in which to dispose of all gasoline and kerosene on hand. Samples were analyzed during this period, however, to determine the quality of the oils being sold in the state prior to the enactment of the law, and to note the improvement in the oils under the operation of the law.

STATE FERTILIZER VALUATIONS.

.(*Based on Commercial Values, January* 1, 1920.)

For Available and Insoluble Phosphoric Acid, Ammonia and Potash for the Season of 1919:

Available Phosphoric Acid	$ .07½	a pound
Insoluble Phosphoric Acid	.01	a pound
Ammonia (or its equivalent in nitrogen)	.35	a pound
Potash (as actual potash, K_2O)	.35	a pound
If calculated by unitss		
Available Phosphoric Acid	1.50	per unit
Insoluble Phosphoric Acid	.20	per unit
Ammonia (or its equivalent in nitrogen)	7.00	per unit
Potash	7.00	per unit

With a uniform allowance of $3.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent. of a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this, take, for example, a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent.	x $1.50—	$9.33
Insoluble Phosphoric Acid	1.50 per cent.	x .20—	.30
Ammonia	3.42 per cent.	x 7.00—	23.94
Potash	3.23 per cent.	x 7.00—	22.61
Mixing and bagging			3.50
Commercial value at seaports			$59.68

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent.	x $1.50—	$12.00
Ammonia	2 per cent.	x 7.00—	14.00
Potash	2 per cent.	x 7.00—	14.00
Mixing and bagging			$ 3.50
Commercial value at seaports			$43.50

The valuations and market prices in preceding illustrations are based on market prices for one-ton lots.

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEAPORTS, JANUARY 1, 1920.

"Under unsettled conditions, quotations are wholly nominal."

AMMONIATES.

Nitrate of Soda, 18% ammonia	$ 77.00
Sulphate of Ammonia, 25% ammonia	115.00
Dried Blood, 16% ammonia	160.00
Cyanamid, 18% ammonia	90.00

POTASH.

Domestic Potash, 27% K_2O	$ 101.00
High-grade Sulphate of Potash, 90% Sulphate 48% K_2O	Nominal
Low-grade Sulphate of Potash, 48% Sulphate, 26% K_2O	Nominal
Muriate of Potash, 80%; 48% K_2O	Nominal
Nitrate of Potash, imported, 15% ammonia, 44% potash K_2O	Nominal
Nitrate of Potash, American, 13% Ammonia, 42% Potash K_2O	Nominal
Kainit, potash, 12% K_2O	Nominal
Canada Hardwood Ashes, in bags, 3% K_2O potash	$ 30.00

AMMONIA AND PHOSPHORIC ACID.

High-grade Tankage, 10% ammonia, 5% phosphoric acid	$ 100.00
Tankage, 8% ammonia, 10% phosphoric acid	82.00
Low-grade Tankage, 6½% ammonia, 12% phosphoric acid	67.00
Goat Manure, 1½% ammonia, 3% potash	35.00
Imported Fish Guano, 10% ammonia, 7% phosphoric acid	107.00
Pure Fine Steamed Ground Bone, 3% ammonia, 22% phosphoric acid	65.00
Raw Bone, 4% ammonia, 22% phosphoric acid	67.00
Ground Castor Pomace, 6½% ammonia, 2% phosphoric acid	70.00
Bright Cotton Seed Meal, 7% ammonia	76.00
Dark Cotton Seed Meal, 4½% ammonia	50.00

PHOSPHORIC ACID.

High-grade Acid Phosphate, 16% available phosphoric acid	$ 25.00
Acid Phosphate, 14% available phosphoric acid	23.50
Bone Black, 17% available phosphoric acid	30.00

MISCELLANEOUS.

High-grade Ground Tobacco Stems, 3% ammonia, 8% potash	$ 54.00
High-grade Baled Kentucky Tobacco Stems, 2½% ammonia, 7% potash	40.00
Tobacco Dust No. 1, 2% ammonia, 2% potash	32.00
Cut Tobacco Stems, in sacks, 2% ammonia, 4% potash	54.00
Dark Tobacco Stems baled, 2% ammonia 4% potash	38.00
Land Plaster, in sacks	17.00

Subject to 5% discount for cash.

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $3.50 per ton in excess of above prices.

NEW YORK WHOLESALE PRICES, CURRENT JAN. 1, 1920, FERTILIZER MATERIALS.

"Owing to unsettled conditions quotations are wholly nominal."

AMMONIATES.

Ammonia, sulph., bulk, f. o. b. works, per 100 lbs.	Nominal		
Double bags, f. a. s. New York	6.40	@	7.00
Fish scrap, dried 11 p. c. ammonia, and 14 p. c. bone phosphate, f. o. b. factories ....7.25 @	7.40	&	10
Wet acidulated, 6 p. c. ammonia, 3 p. c. phosphoric acid, f. o. b. fish factory	5.50	&	50
Ground Fish Scrap, 11 to 12 p. c. ammonia, 15 p. c. B. P. f. o. b. fish factory	8.25	&	10
Tankage, 11 p. c. and 15 p. c. f. o. b. Chicago	7.25	&	10
Tankage, 10 and 20 p. c. f. o. b. Chicago, ground	7.25	&	10
Tankage, 9 and 20 p. c. f. o. b. Chicago, ground	7.10	&	10
Tankage, concentarted, f. o. b. Chicago, 14 to 15 p. c.	—	@	6.25
Blood f. o. b. Chicago	7.50	@	7.75
Garbage, tankage, f. o. b. Chicago	4.00	& 10 &	$1
Hoofmeal, f. o. b. Chicago, per unit	—	@	7.00
Dried Blood, 12-13 p. c. ammonia, f. o. b. New York	7.50	@	7.85
Tankage, New York	7.25	@	—
Nitrate of soda, per 100 lbs.	3.05	@	—

PHOSPHATES.

Acid, phosphate, basis 16% bulk per ton	19.75	@ —
Southern ports	22.00	@ —
Bones, rough hard	30.00	@32.00
Soft steamed, unground,	26.00	@27.00
Ground, steamed, 1¼ p. c. ammonia and 60 p. c. bone phosphate	32.00	@ —
Do., 3 and 50 p. c.	40.00	@ —
Raw Ground, 4 p. c. ammonia and 50 p. c. bone phosphate	48.00	@ —
Florida land pebble phosphate rock, 68 p. c. f. o. b. Tampa, Fla.	—	@ —
Florida land pebble phosphate rock, 75 p. c. f. o. b. Tampa	—	@ —
Florida high grade phosphate hard rock, 77 p. c. f. o. b. Florida ports	—	@ —
Tennessee phosphate rock, f. o. b. Mt. Pleasant, domestic 78 @ 80 p. c. per ton	11.00	@11.50
75 p. c. guaranteed, per ton, 2,240 lbs.	9.75	@10.25
78 p. c. per ton, 2,240 lbs.	11.00	@11.50

POTASHES.

American fertilizer, potash, in paperlined cars, f. o. b. works, per unit	2.75	@ 2.80
Muriate of potash, 80@85 per cent., K. C. L., bags, per unit	2.75	@ 3.00
Muriate of potash, min., 90@95 per cent, basis, 80 per cent. in bags	Nominal	
Muriate of potash, min. 98 per cent. basis 80 per cent. in bags	Nominal	
Sulphate of potash, 90@95 per cent, basis 90 per cent in bags., per unit	Nominal	
First sorts potashes, per lb.	15	@ 20

COMMERCIAL STATE VALUES OF FEED STUFF FOR 1920.

For the season 1920 the following "State values" are fixed as a guide to purchasers, quotation January 1st.

These values are based on the current prices of corn, which has been chosen as a standard in fixing the commercial values, the price of corn, to a large extent, governing the price of other feeds, pork, beef, etc.:

$3.25 per sack of 100 lbs., $1.82 per bu., 56 lbs.

To find the commercial State value, multiply the percentages by the price per unit.

A unit being 20 pounds (1%) of a ton.

Protein, 6.8c per pound	$1.36 per unit
Starch and sugar, 3.1c per pound	.62 per unit
Fat, 6.8c per pound	1.36 per unit

Example No. 1

Corn and Oats, Equal Parts:

Protein	11.15x1.36,	$15.16
Starch and Sugar	64.65x .62,	40.08
Fat	5.20x1.36,	7.07
State value, per ton		$62.31

Example No. 2.

Corn:

Protein	10.50x1.36,	$14.28
Starch and Sugar	69.60x .62,	43.15
Fat	5.40x1.36,	7.34
State value, per ton		$64.77

STATE VALUES.

It is not intended by the "State valuations" to fix the price or commercial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertilizers or commercial stock feed at the date of issuing a Bulletin, or the opening of the "season." They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked, "What is Smith's Fruit and Vine worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid and potash may be determined and the inquirer informed what the cost of the necessary materials to compound a ton of goods siimlar to "Smith's Fruit and Vine" would be, using none but accepted and well-known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer or feed can be *purchased for cash in ton lots at Florida seaports.*

These price lists published in this report, with the "State values," January 1, 1920, are nominal.

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

Ctizens of the State interested in fertilizers, foods and drugs, and stock feed, can obtain, free of charge, the respective laws, including rules and regulations and standards, by applying to the Commissioner of Agriculture, or State Chemist. Application for the Quarterly Bulletin of the State Department of Agriculture should also be made to the Commissioner of Agriculture, or State Chemist. The bulletins of the Florida Agricultural Experiment Station can be had by application to the Director, at Gainesville.

The form letter for transmitting special samples of fertilizers or feeding stuffs as shown in the rules and regulations is adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

"COOPERATION WITH NATIONAL FOOD AND DRUG AUTHORITIES.

"Section two of the Florida Food and Drugs Law provides that in cases of violation of interstate laws the 'Commissioner of Agriculture shall certify the case to the United States District Attorney in whose district the violation of the law may have been committed.'

"Section Fifteen provides 'that the Commissioner of Agriculture, with the advise of the State Chemist, shall establish such rules and regulations as shall not be inconsistent with the provisions of this Act in conformity with the rules and regulatons formulated by the United States Department of Agriculture, by authority of the National Food and Drugs Act of June thirtieth, nineteen and six, and amendments thereto.'

"The United States Department of Agriculture has established the 'Office of State Cooperative Food and Drug Control' for the purpose of cooperating with the States in cases of violation of interstate laws, and will take charge of all cases of violation of interstate laws on receipt of the evidence transmitted by the State authorities, and will refer the same to the 'U. S. District Attorney in whose District the violation of the law may have occurred" for prosecution. It is evident that the Florida Law (Section Two) contemplates such reference, and cooperation, as cases of violation of interstate laws originate at the point of manufacture or shipment from other states, and are not within the jurisdiction of the U. S. District Attorneys of Florida. The officers, 'Chemist in Charge,' of the 'Office of State Cooperative Food and Drug Control,' and 'United States Local Inspectors,' have shown an active interest in this essential cooperation, and have visited this State on numerous occasions for consultation with the 'State authorities.'

"As a very large proportion, 75% or more, of the manufactured foods and drugs sold in Florida are of interstate origin, an active cooperation with the National authorities is essential in order to more effectively protect the citizens of Florida from misbranded, lightweight, or adulterated foods, drugs and feeds."

FRAUDULENT FERTILIZERS.

The unusual scarcity and high values of all fertilizer materials, sulfur, sulfuric acid, nitrates and potash, and the great demand by farmers for fertilizers, caused by the high prices of grain, forage and feed crops, has induced a number of unscrupulous profiteers to place upon the market in a number of instances practically worthless fertilizers; generally clandestinely through agents, and without having legally registererd their formulas or guarantees, or under false gurantees and without payment of the inspection fee required by law. Goods adulterated with water (the universal adulterant) selling water at $1.50 or more per gallon to say nothing of the cost of packages and freights; or sand 40% or more (800 pounds of sand in a ton) at $40.00 per ton; sold to farmers under false and misleading statements, garbled and deleted quotations from scientific authority.

It is unnecessary to say that the sale of such goods not only defrauds the consumer, but fails to protect the honest manufacture of legitimate material.

ANALYTICAL FORCE.

The three analysts employed by the State Laboratory are industrious, capable and necessarily work long hours in the effort to report promptly upon all samples. This report shows a number of analyses made by each; each sample involving four to seven determinations.

I have reported the necessity of additional analysts previously. The growers of the State are payng annually some $80,000 for protection, and are entitled to more prompt service, which can only be given by a larger force of competent analysts, it being physically impossible for the present force to meet the demands as promptly as the consumer has a right to expect.

ACKNOWLEDGMENTS.

I wish to extend to the analytical force of the State Laboratory, the Inspectors of the Chemical Division and the Citrus Inspectors, the thanks and appreciation of the State Chemist for their hearty cooperation, their constant labor and vigilance in the effort to aid in the protection of the citizens of the State, and the honest manufacturers and dealers, from dealers in "short weight," "adulterated," and "misbranded" foods, feeds and fertilizers, quack remedies and green fruit.

Respectfully submitted,
State Chemist.

ANALYSIS MADE BY STATE LABORATORY.

Only such materials are analyzed by the State Laboratory as are directed by the Pure Food, the Fertilizer, and Stock Feed Laws.

There are no fees or charges of any kind made by the State Laboratory.

The State Laboratory is not permitted to compete with commercial laboratories.

No commercial work of any kind is accepted.

The State Laboratory does not analyze the materials used by, nor the products of Fertilizer, Feed Stuffs, or other factories, by which to guarantee their goods. Such analyses are commercial problems.

The State Laboratory does not analyze samples for individual account wherein the public is not interested. Such samples should be sent to a commercial laboratory.

ANALYSES IN CRIMINAL CASES

The State Laboratory does not make post mortem examinations, nor furnish evidence in criminal cases (except as provided by the Pure Food, Fertilizer and Stock Feed Laws). Such analyses and examinations are made by specialists employed by the grand jury and prosecuting attorney, the cost being taxed as other criminal costs. by the court.

R. E. ROSE, State Chemist.

W. A. McRAE,
Commissioner of Agriculture.

Tallahassee, Fla., January 1, 1920.

STATE OF FLORIDA.

Department of Agriculture.

January 1, 1920.

REGULATIONS GOVERNING THE TAKING AND FORWARDING OF SAMPLES OF COMMERCIAL FERTILIZER AND COMMERCIAL FEEDING STUFF TO THE COMMISSIONER OF AGRICULTURE FOR ANALYSIS BY THE STATE CHEMIST.

The following regulations for drawing, preparing and sending samples of commercial fertilizer and commercial stock feed, under the authority given in Section 15 of Chapter 4983, Acts of 1901 (Chapter XXII., General Statutes), as amended by Chapter 5660, Acts of 1907, and Section 15, Chapter 5452, Acts of 1905, as amended by Chapter 5661, Acts of 1907, and Chapter 7939, Acts of 1919, are this day adopted.

OFFICIAL SAMPLES, drawn by State Chemist, Assistant State Chemists or Inspectors.

An approximately equal quantity (a pint or a pound) shall be taken with an approved ''sampler'' (a sugar, flour or cheese tryer—a ''pod auger'' approximately twenty inches long), the sample to be taken through the center of the package; not less than five samplers-full shall be taken from each package.

When the lot or shipment contains ten, or less than ten, packages of the same brand, each package shall be sampled as above.

In case the lot or shipment contains more than ten packages of the same brand, a sample shall be drawn from ten packages as above, and also a sample from one package from each lot of ten or fraction thereof, above ten packages in the lot or shipment being sampled.

Preparation of Sample.—The several samples, drawn as above from each package, shall be carefully and thoroughly mixed. From this well mixed lot drawn from each package as above, a fair sample of not less than one pound, in the case of fertilizers, and of not less than one-half pound in the case of stock feed, shall be placed in a bottle or tin can—approximately a quart can or bottle.

On the sample package, and on the guarantee tags taken off the sampled packages shall be written the number of the sample, the name of the purchaser or owner, the name and address of the manufacturer or shipper, the place and date of the drawing, and signed by the Inspector. Two of the guarantee tags shall be placed in each sample can; the remainder, if any, of the tags, shall be numbered, dated and signed by the Inspector. One of each sample tag shall be delivered to the purchaser or owner; the remainder, if any, shall be sent to the Commissioner of Agriculture by the Inspector.

The sample shall be delivered to the State Chemist, who shall prepare the same for analysis (by properly grinding, mixing and sifting the same.) The State Chemist shall retain one-half of this prepared sample for analysis; the remainder shall be placed in a glass bottle, sealed, and identified by the laboratory number and date, and placed in the custody of the Commissioner of Agriculture. These duplicate samples shall be retained for a period of three months from the date of the certificate of analysis. In case of appeal from analysis of the State Chemist (within three months from the date of the certificate), the sample shall be retained indefinitely, until the final disposition of the case.

SPECIAL SAMPLES DRAWN BY PURCHASERS.

Special Samples.—Samples drawn and transmitted by the purchaser under Sections 9 of both the Commercial Fertilizer and the Commercial Stock Feed Laws.

SAMPLING TEN OR LESS PACKAGES.

The purchaser or owner of the material to be sampled, when the lot or shipment contains ten or less original packages, each bearing the guarantee tag and stamp required by law, of the same brand, shall take, in the presence of two disinterested persons, within thirty days after delivery, an approximately equal quantity (a pint or a pound) from each of the ten or less packages of the same brand.

These samples shall be taken with an approved "sampler" (a sugar, flour or cheese tryer, a "pod auger," a semi-circular instrument of tin or sheet iron, capable of drawing a sample through the center of the package, approximately twenty inches long); the sample to be taken through the center of the package; not less than five samplers-full shall be taken from each package.

SAMPLING MORE THAN TEN PACKAGES.

In case the lot or shipment contains more than ten packages of the same brand, each bearing the guarantee tag and stamp required by law, a sample shall be drawn in the presence of two disinterested persons from each of ten packages as above; and also a sample from one package from each lot of ten packages or fraction thereof, above ten packages in the lot or shipment being sampled.

After carefully and thoroughly mixing these samples, a fair sample of the mixture, not less than a pound in the case of commercial fertilizer, and not less than one-half pound in the case of commercial stock feed, shall be placed in a bottle or tin can, and sealed in the presence of the witnesses.

On the sample thus drawn shall be written the name and address of the purchaser, and the name of a disinterested party (one of the witnesses), who shall transmit the package to the Commissioner of Agriculture by mail or express, properly packed to prevent damage in transportation.

The sender of the sample shall also address a letter to the Commissioner of Agriculture, advising him of the sending of the sample, stating the number of original packages purchased, each bearing the guaranteed analysis and inspection stamp required by law, the number of packages represented by the sample, the date of purchase, and the date of delivery of the goods.

This letter of transmittal shall be accompanied by an affidavit of the purchaser and of both witnesses to the drawing of the sample, taken before an officer authorized to administer oaths and take acknowledgements, as to the correctness of the letter of transmittal and the proper drawing, according to law, rules and regulations; and be properly signed by the purchaser and the two witnesses, over the signature and seal of the officer administering the oath.

NOTE—THIS LETTER AND THE AFFIDAVITS MUST NOT BE ENCLOSED IN THE PACKAGE.

Blank forms of the letters of transmittal and affidavits will be furnished by the Commissioner of Agriculture or State Chemist and are published herein. They must be literally complied with, otherwise the sample will not be accepted for analysis.

The tags off the sampled packages shall be marked with the date and place of the drawing, signed by the two disinterested persons and the owner, and shall be retained by the owner to compare with the certificate of analysis by the State Chemist. On the receipt of the certificate of the State Chemist the owner shall immediately mark upon the tags, off the packages sampled and retained by him, the number and date of the State Chemist's certificate, and shall at once send two of the said tags to the Commissioner of Agriculture; one of which shall be filed in the office of the Commissioner of Agriculture; the duplicate delivered to the State Chemist for filing in the records of his office.

SAMPLES IN PAPER OR WOODEN PACKAGES WILL NOT BE ACCEPTED.

Duplicate samples of the same lot or shipment, of the same brand, are not permissible though the lot or shipment (of the same brand) may have been consigned to different persons or firms.

These regulations are adopted to secure fair samples of sufficient size to allow the preservation of a duplicate sample in case of protest or appeal. This duplicate sample will be preserved for three months from the date of certificate of analysis.

The State Chemist is not the proper officer to receiv special samples from the purchaser.

The propriety of the method of drawing and sending samples as fixed by law is obvious.

The drawing and sending of special samples is in rare cases in compliance with law. Samples are frequently sent in paper boxes, badly packed, and frequently in very small quantity (less than an ounce); frequently there are no marks, numbers or other means of identification; the postmark in many instances being absent.

The attention of those who desire to avail themselves of this privilege is called to Section 9 and 10 of the laws, which are clear and explicit.

NOTE: HEREAFTER STRICT COMPLIANCE WITH ABOVE REGULATIONS WILL BE REQUIRED. THE SAMPLE MUST NOT BE LESS THAN ONE POUND OF FERTILIZER OR ONE-HALF POUND OF STOCK FEED, IN A TIN CAN OR BOTTLE, SEALED AND ADDRESSED TO THE COMMISSIONER OF AGRICULTURE. THE PURCHASER'S NAME AND ADDRESS, AND THE NAME OF THE SENDER, MUST ALSO BE ON THIS PACKAGE, THIS RULE APPLYING TO SPECIAL SAMPLES OF FERTILIZERS OR COMMERCIAL FEEDING STUFF, DRAWN AS DIRECTED.

NOTE: A one-pound baking powder tin can, properly cleaned, filled with a fairly drawn, well-mixed sample, drawn as directed, is a proper sample. IT MUST BE SEALED AND ADDRESSED TO THE COMMISSIONER OF AGRICULTURE, AT

TALLAHASSEE. THE PURCHASER'S NAME AND ADDRESS, AND THE NAME OF THE SENDER, MUST ALSO BE PLACED ON THE PACKAGE.

IF MORE THAN ONE SAMPLE IS SENT REPRESENTING DIFFERENT BRANDS THE SAMPLES MUST BE NUMBERED SO AS TO IDENTIFY THEM. A LETTER OF TRANSMITTAL AND AFFIDAVIT MUST ACCOMPANY EACH SAMPLE. ALL THIS SHOULD BE DONE IN THE PRESENCE OF THE WITNESSES, AND THE PACKAGE MAILED OR EXPRESSED BY A DISINTERESTED PERSON.

NOTE: The tags off the sacks with the guaranteed analyses and stamps, and names of manufacturers should be retained by the purchaser, to compare with the certificate of analysis when received and NOT SENT TO THIS OFFICE, UNTIL AFTER RECEIPT OF THE CERTIFICATE OF ANALYSIS.

Raw Phosphates.—Ground raw phosphate rock—hard or soft—contains phosphoric acid, more or less available hence is classed a fertilizer, when sold to consumers for fertilizing purposes, under Section 11 of the law; and is required to be guaranteed and stamped as required by Section 3; listed and guaranteed under oath, as required by Section 5, and the inspection fee paid previous to sale as provided by Section 6.

Lime is not classed a fertilizer. It is not required to be sold under guarantee, nor the inspection fee paid; hence is not subject to free analysis by the State Laboratory.

OBJECT OF THE LAWS.

The object of the Fertilizer and Stock Feed Law is: First, to protect the consumer from fraud, false representations by illegitimate dealers who have not complied with the law, nor filed their guaranteed analysis under oath, and who have not paid their inspection-tax fixed by law.

Second, to protect the lawful dealer who has fully complied with the law, by filing his guarantee under oath, and has paid his inspection fee, and who has placed upon each bag or other package, a guarantee tag showing the minimum percentage of valuable ingredients in the fertilizer or feed stuff, as provided by the law.

These regulations supersede and revoke all previous regulations governing the drawing and transmitting of samples of commercial fertilizer and commercial stock feed.

R. E. ROSE, State Chemist.

W. A. McRAE,
Commissioner of Agriculture.

Tallahassee, Fla., January 1, 1920.

NOTE: These regulations are adopted to conform with the decision of the Supreme Court of Florida of May 12, 1917, as follows:

"The terms of the statute in giving the special right of action to 'any person purchasing' fertilizer clearly contemplates that the test shall be made with at least some degree of promptness after the delivery of the fertilizer. and that more than one sample shall be taken when the quantity of fertilizer purchased makes it expedient to have plural samples to secure a fair test."

SPECIAL SAMPLES.

Florida is the only state in the Union that provides for the "special sample," drawn by the consumer or purchaser, UNDER PROPER RULES AND REGULATIONS FIXED BY LAW—to be sent to the Commissioner of Agriculture for analysis free of cost. Any person who has purchased fertilizers or feeds FOR HIS OWN USE MAY DRAW A SAMPLE OE THE SAME, ACCORDING TO LAW AND REGULATIONS, and have the same analyzed by the State Chemist free of cost. In case of adulteration or deficiency the purchaser can, on establishing the fact, receive double the cost demanded for the goods.

NOTE: A "material deficiency" (Section 3) shall be 0.20%—twenty points—one-fifth (1/5 per cent—equal to four pounds in a ton of 2,000 pounds; or one-fifth (1/5) pound in 100 pounds of Ammonia (1.00% Protein), Available Phosphoric Acid, and Potash in Fertilizers;

Or, 1.00% Protein, 0.02% Fat, 1.00% Nitrogen-Free Extract (starch and sugar) in Stock Feed.

Provided, these variations, or tolerances, shall be as often above as below the guarantee.

The law requires the "special samples" to be drawn in a manner to prevent the submission of spurious samples; rules and regulations are published in every Quarterly Bulletin for drawing and transmitting "special samples."

This special sample has been a most potent factor in enforcing the law and discouraging the sale of adulterated or misbranded goods.

The following form letter and affidavit for transmitting special samples of fertilizers or feeding stuffs are adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

FORM FOR TRANSMITTING SAMPLES OF COMMERCIAL FERTILIZER OR COMMERCIAL FEEDING STUFF.

........................Fla., ...192....

Hon. W. A. McRae,
Commissioner of Agriculture,
Tallahassee, Florida.

Dear Sir:—

I send you today by mail (or express) a sample of

....
(Indicate Fertilizer, Cotton Seed Meal or Feed Stuff.)

for analysis by the State Chemist.

This sample is taken from a lot of....packages, each bearing the guarantee tag and stamp required by law, purchased from a registered dealer, on the.......day of ...., 192..., and delivered on or about the...... day of...................., 192....

This sample was drawn from........packages in the presence of two witnesses, this day.

The guarantee tags and stamps off the .... packages sampled are retaind by the purchaser.

This sample is sent by me, one of the witnesses, for Mr. ...., the purchaser.

Yours truly,

....

FORM OF AFFIDAVIT TO ACCOMPANY SPECIAL SAMPLES OF FERTILIZERS OR STOCK FEED SENT TO THE COMMISSIONER OF AGRICULTURE.

.................., Fla., ..., 192..

Personally appeared before me, the undersigned authority, ..., the owner of the sample of................................, described in
Fertilizer or Stock Feed.
the attached letter of transmittal; also................. and......................., two disinterested persons who witnessed the drawing of the said sample, who, each being duly sworn, declare the drawing and sealing of the sample as described in the attached letter of transmittal was in their presence at.................., Florida, on the........day of................., 192..; and as set forth in the said letter of transmittal, that the sample was delivered to.......................for transmittal to the Commissioner of Agriculture.

......................(Owner)

......................(Witness.)

......................(Witness.)

Sworn and subscribed to before me
this......day of............., 192..

....

Notary Public.

My commission expires...........

(Seal)

THE STATE OF FLORIDA.

DEPARTMENT OF AGRICULTURE.

RULES AND REGULATIONS GOVERNING THE ANALYSIS OF WATER, SOILS, COMMERCIAL SAMPLES, AND SAMPLES INVOLVING CRIMINAL CASES.

WATER ANALYSIS.

The State Laboratory will analyze samples of water from public-owned water supplies, municipal plants, etc., owned and operated by the city or town, when accompanied by the certificate of the mayor, or other city officer, that the water is furnished the public by the city or town.

It will not analyze water for individuals or corporations selling water to the public, water companies, ice companies, mineral springs, health resorts, etc., maintained for profit. Such samples should be sent to a commercial laboratory.

The State Laboratory does not make bacteriological examinations for disease germs. Such examinations are made by the State Board of Health at Jacksonville, Fla., which has entire charge of the public health.

We do not make a sanitary analysis. We determine the total dissolved solids in the sample quantitatively, and report them as parts per 1,000,000, naming the principal ingredients in the order of their predominance qualitatively. We find Calcium Carbonate (lime), Sodium Chloride (salt), Magnesium Sulphate (epsom salts), Silica (sand), and Iron, is the general order of their predominance, though on the coast, where the total dissolved solids amounts to 5,000 or more parts per 1,000,000, Sodium Chloride (salt) is the predominant substance.

From a knowledge of the chemical analysis of a water, unaccompanied by any further information, no conclusion as to the potability and healthfulness of the water can be deduced.

Therefore, we require the following information to be given in regard to the source of the water:

(1). The source of the water: spring, lake, river, driven well, dug well, bored well, artesian well or flowing well; and also the depth of the water surface below the top of the soil, and in cased wells, the depth of the casing.

(2). The locality of the source of the water; town, city or village; or the section, township and range.

No samples of water will be analyzed unless the name and address of the sender is on the package for identification.

WE REQUIRE TWO GALLONS OF EACH SAMPLE OF WATER IN A NEW JUG, STOPPED WITH A NEW CORK, AND SENT BY PREPAID EXPRESS. We will not accept any sample of water for analysis not in a new jug. Vessels previously used for other purposes are never properly cleaned for sending samples of water for analysis. Corks, once used for other substances (molasses, vinegar, whiskey, kerosene, etc.) are never properly cleaned.

NOTE: We find the waters of the State — springs, wells, driven wells and artesian wells — generally very pure and wholesome, with but little mineral impurity, and that such as is not harmful. Except in cases of gross carelessness, in allowing surface water to contaminate the well or spring, the waters of the State are pure and wholesome. The deep wells of the State are noted for their purity and healthfulness.

SOIL ANALYSIS.

Frequently samples of soil are sent in for analysis with a request to advise as to the best methods of fertilizing. There is but little information to be derived from a soil analysis that would be of benefit to farmers. So much depends on tilth, drainage, culture and other physical conditions, that an analysis made under laboratory conditions is of little value.

A chemical anaylsis of soil may indicate a very fertile soil, rich in plant food, while the facts are the soil is not productive. This is instanced by the rich sawgrass muck lands and river bottoms of the State, that are fertile chemically, but not productive until properly drained; also by the arid lands of the West, rich in the elements of plant food, but not productive until irrigated. Other soils, with less plant food, but on account of proper physical conditions, culture and tilth, are exceedingly productive.

The average of thousands of analyses of Florida soils made by the Florida Agricultural Experiment Station and the State Laboratory is as follows:

Nitrogen (per cent)	0.0413
Potash (per cent)	0.0091
Phosphoric Acid (per cent)	0.1635

This is a fair average of all of the Norfolk and Portsmouth soil series of the State, which comprise by far the greater portion of the State.

In this connection we quote from the report of the Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1908, as follows:

"*Soil Analysis of Little Value in Showing Fertilizer Requirements.*—The Chemical Department is called upon to answer hundreds of letters of inquiry in relation to agricultural chemical problems from people all over the State. In this connection it might be well to say that there is a widespread idea that the chemist can analyze a sample of soil and, without further knowledge of the conditions, write out a prescription of a fertilizer which will fill the needs of that particular soil.

"The Experiment Station does not analyze samples of soil to determine the fertilizer requirements. There is no chemical method known that will show reliably the availability of the plant food elements present in the soil, as this is a variable factor, influenced by the kind of crop, the type of soil, the climate and biological conditions; hence, we do not recommend this method of testing soil.

"The method recommended by the Indiana Station is the field fertilizer test or plot system, in which long, narrow strips of the field to be tested are measured off side by side. The crop is planted uniformly over each. Different fertilizers are applied to the different plots, every third or fourth one being left unfertilized. The produce from these plots is harvested separately and weighed. In this manner the farmer can tell what fertilizer is best suited for his needs. As climatic conditions may influence the yield with different fertilizers, it is best to carry on such tests for more than one year before drawing definite conclusions. There is positively no easier or shorter method of testing the soil that we feel safe in recommending.

"Soil can be greatly improved by an intelligent rotation of crops, the conservation of stable manures, and the use of some kind of commercial fertilizer. Farmers need have no fear that the proper application of commercial fertilizer will injure the land."

ANALYSIS OF FOODS AND DRUGS.

Samples of foods and drugs are drawn under special regulations as provided by law.

Application should be made to the Commissioner of Agriculture or State Chemist for the necessary blanks, instructions, etc., for drawing and transmitting samples of foods and drugs, including drinks of all kinds.

FOOD AND DRUG SAMPLES NOT DRAWN AND TRANSMITTED ACCORDING TO LAW WILL NOT BE ACCEPTED FOR ANALYSIS.

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

Citizens of the State interested in fertilizers, foods and drugs, and stock feed, can obtain, free of charge, the respective laws, including rules and regulations and standards, by applying to the Commissioner of Agriculture or State Chemist. Application for the Quarterly Bulletin of the State Department of Agriculture should also be made to the Commissioner of Agriculture or State Chemist. The Bulletins of the Florida Agricultural Experiment Station can be had by application to the Director at Gainesville.

R. E. ROSE, State Chemist.

W. A. McRAE,
Commissioner of Agriculture.

Tallahassee, Fla., January 1, 1920.

NOTE.—All special samples transmitted under form letter on page 35 shall be taken with an approved "sampler" (a sugar, flour or cheese tryer, a "pod auger," a semi-circular instrument of tin or sheet iron, capable of drawing a sample through the center of the package, approximately twenty inches long); the sample to be taken through the center of the package; not less than five samplers-full shall be taken from each package.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. SPECIAL FERTILIZER ANALYSES, 1919, FRANK T. WILSON, Asst. Chemist.
Samples Taken by Purchaser Under Section 9, Act Approved May 22, 1901.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer No. 1	4780	4.96	7.20	2.65	9.85	7.05	.....	W. N. Seeger, Ocoee.
Fertilizer No. 2	4781	7.77	7.60	2.10	9.70	4.55	1.10	W. N. Seeger, Ocoee.
Fertilizer No. 1	4782	14.12	3.90	5.00	8.90	8.60	.....	L. W. Tilden, Winter Garden.
Fertilizer No. 2 (Acid Phosphate)	4783	.....	17.82	0.18	18.00	.....	.....	L. W. Tilden, Winter Garden.
Goat Manure	4784	8.93	.....	.....	.....	2.15	2.90	C. Upton, Boynton.
Acid Phosphate	4785	.....	17.65	0.20	17.85	.....	.....	C. Upton, Boynton.
Fertilizer	4786	8.00	6.20	7.50	13.70	4.02	2.76	J. H. Sadler, Oakland.
Steamed Bone	4787	4.97	7.00	18.90	25.90	4.00	.....	R. Daetwyler & Co., Winter Park.

Fertilizer	4788	6.85	5.40	13.85	19.25	4.20	.....	Cape Verde Farms Co., Montverde.
Fertilizer	4789	2.87	6.95	0.55	7.50	3.90	.....	Wright Bartlett, Fort Ogden.
Early Truck (Sample No. 1)....	4790	3.98	6.70	0.70	7.40	4.89	.....	T. M. Waldron, East Palatka.
Special Mixture (Sample No. 2).	4791	6.68	7.10	1.10	8.20	5.55	0.84	T. M. Waldron, East Palatka.
Ammoniated Phosphate (Sample No. 3)	4792	4.97	8.20	0.70	8.90	3.97	.....	T. M. Waldron, East Palatka
Formula No. 1 (Sample No. 1)..	4793	9.31	6.75	2.25	9.00	5.17	1.02	L. Cantrell. Palatka.
Formula No. 1	4794	9.68	6.65	3.05	9.70	5.27	0.89	Dan Thompson, Sneads Island.
Cotton Seed Meal	4795	.....	.....	.....	.....	7.10	.....	J. A. Maultsby, Campville.
Fertilizer No. 2.	4796	10.23	5.95	1.00	6.95	3.22	4.82	Dan Thompson, Sneads Island.
Special Mixture No. 1	4797	7.95	5.95	2.15	8.10	5.65	1.01	R. J. Hancock, Palatka.
Special Mixture No. 2	4798	8.39	6.75	3.55	10.30	5.53	0.87	R. J. Hancock, Palatka.
Special Mixture No. 3	4799	9.65	6.43	0.57	7.00	5.30	0.92	R. J. Hancock, Palatka.
Mixed Fertilizer	4800	9.11	5.00	3.00	8.00	2.27	3.57	A. Ringdahl, White City.
Fertilizer	4801	4.91	9.68	2.57	12.25	4.43	0.99	Bailey Bros. & Jones, Wauchula.
Peanut Meal	4802	.....	.....	.....	.....	6.33	.....	S. Burgis, Madison.

SPECIAL FERTILIZER ANALYSES, 1919—(Continued.)

NAME, OR BRAND	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	4803	7.17	5.55	0.30	5.85	2.58	3.19	Rex Packard, Sanford.
Tankage No. 1	4804	7.25	3.60	4.90	8.50	9.75	.....	R. F. Symes, Sanford.
Dried Blood No. 2	4805	.....	.....	.....	.....	17.50	.....	R. F. Symes, Sanford.
Mixed Fertilizer No. 1	4806	9.83	8.65	2.95	11.60	5.15	0.88	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 2	4807	9.20	8.50	2.05	10.55	6.15	0.58	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 3	4808	16.22	4.38	2.27	6.65	6.80	3.53	O. P. Swope Land Co., Sanford.
Cotton Seed Meal No. 4	4809	.....	.....	.....	.....	7.17	.....	O. P. Swope Land Co., Sanford.
Castor Pomace No. 5	4810	.....	.....	.....	.....	5.55	.....	O. P. Swope Land Co., Sanford.
Mixed Fertilizer	4811	9.77	7.80	4.50	12.30	4.30	2.21	W. H. Peters, Sanford.
Mixed Fertilizer	4812	6.87	6.78	2.22	9.00	3.50	3.97	F. M. Cameron, Sanford.

Mixed Fertilizer No. 1	4813	8.48	6.83	2.32	9.25	7.30	0.88	S. H. Buchanan, Sanford.
Tobacco Dust No. 2	4814	.....	.....	.....	.....	2.35	5.80	S. H. Buchanan, Sanford.
Mixed Fertilizer No. 1	4815	9.06	4.63	3.07	7.70	4.75	3.28	L. A. Brumley, Sanford.
Special Mixture No. 2	4816	0.86	.....	.....	.....	18.20	19.50	L. A. Brumley, Sanford.
Mixed Fertilizer	4817	12.00	6.63	1.87	8.50	3.97	3.75	Thrasher Bros., Sanford.
Mixed Fertilizer	4818	9.27	5.10	0.55	5.65	5.52	1.11	Carl Carlson, Sanford.
Mixed Fertilizer	4819	10.52	5.90	2.85	8.75	4.42	3.21	J. E. Pace, Sanford.
Mixed Fertilizer	4820	12.90	6.08	0.42	6.50	4.55	2.39	I. E. Esteridge, Sanford.
High Grade Fertilizer..........	4821	7.78	6.90	2.60	9.50	5.70	1.91	K. S. Parrish, Parish.
Cotton Seed Meal	4822	.....	.....	.....	.....	8.30	.....	R. T. McDavid, Hinson.
Fertilizer No. 1	4823	10.50	6.03	7.22	13.25	5.00	2.05	S. J. Seeger, Ocoee.
Fertilizer No. 2	4824	11.37	6.95	5.40	12.35	6.50	0.34	S. J. Seeger, Ocoee.
Fertilizer No. 3	4825	11.07	7.28	5.97	13.25	5.15	0.32	S. J. Seeger, Ocoee.
Fertilizer	4826	10.50	9.58	2.47	12.05	5.22	0.50	L. Wichendahl, Gotha.
Fertilizer	4827	8.78	2.05	1.35	3.40	5.00	7.30	Franklin Tyler, Arcadia.

SPECIAL FERTILIZER ANALYSES, 1919—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	4828	9.15	9.95	3.80	3.75	4.95	0.37	J. A. Nielson, White City.
Mixed Fertilizer	4829	9.80	5.25	0.15	5.40	4.22	1.25	J. H. Perritt, Sanford.
Mixed Fertilizer	4830	8.04	5.95	5.15	11.10	4.67	2.71	F. N. Esteridge, Sanford.
Mixed Fertilizer	4831	4.27	12.43	0.57	13.00	4.95	0.44	J. H. Huddleston, Sanford.
Mixed Fertilizer	4832	11.76	6.05	1.65	7.70	4.40	3.06	J. F. Smith, Sanford.
Mixed Fertilizer	4833	8.38	6.18	0.87	7.05	4.65	1.74	John Bolly, Sanford.
Mixed Fertilizer No. 1	4834	19.52	6.60	0.75	7.35	3.90	2.51	Mrs. J. S. Moore, Sanford.
Cotton Seed Meal No. 2	4835	.....	.....	.....	.....	7.70	.....	Mrs. J. S. Moore, Sanford.
Cotton Seed Meal	4836	.....	.....	.....	.....	7.90	.....	B. E. Squires, Sanford.
Sulphate of Ammonia No. 1....	4837	.....	.....	.....	.....	20.20	.....	U. S. Dept. of Agriculture.

Goat Manure No. 2	4838	33.52	0.78	0.47	1.25	4.25	1.50	U. S. Dept. of Agriculture.
Acid Phosphate No. 3	4839	.....	16.35	0.10	16.45	.....	.....	U. S. Dept. of Agriculture.
Dried Blood No. 4	4840	.....	.....	.....	.....	15.20	.....	U. S. Dept. of Agriculture.
Potash No. 5	4841	.....	.....	.....	.....	.....	35.30	U. S. Dept. of Agriculture.
Mixed Fertilizer	4842	10.42	7.35	2.75	10.10	4.70	1.91	E. Curlett, Sanford.
Mixed Fertilizer	4843	7.25	5.05	2.40	7.45	3.87	2.80	C. G. Bell, Sanford.
Mixed Fertilizer	4844	11.02	1.20	0.10	1.30	7.72	1.41	R. F. Symes, Sanford.
Mixed Fertilizer	4845	13.87	6.18	3.02	9.20	4.35	3.04	Hunter Bros., Sanford.
Fertilizer No. 1...............	4846	10.88	7.10	3.20	10.30	4.30	0.61	A. C. Haynes, DeLand.
Fertilizer No. 2...............	4847	8.93	6.38	1.92	8.30	4.12	2.19	A. C. Haynes, DeLand.
Fertilizer (Lot No. 2)..........	4848	2.80	7.00	0.30	7.30	4.00	0.22	R. P. McAdams, Miami.
Fertilizer (Lot No. 1)..........	4849	12.65	8.30	1.55	9.85	4.20	2.14	R. P. McAdams, Miami.
Mixed Fertilizer	4850	7.27	7.60	2.45	10.05	3.75	0.28	A. P. Connelly, Sanford.
Fertilizer	4851	8.62	6.15	0.65	6.80	4.00	2.92	W. K. Walton, Homestead.
"Victory Potash"	4852	.....	.....	.....	.....	.....	2.48	R. S. Hall, Ocala.

SPECIAL FERTILIZER ANALYSES, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer No. 1..........	4853	11.58	7.18	3.12	10.30	4.65	2.71	R. S. Shimmons, Sanford.
Mixed Fertilizer No. 2..........	4854	9.78	5.50	1.70	7.20	6.55	0.80	R. S. Shimmons, Sanford.
Mixed Fertilizer	4855	16.05	7.05	0.75	7.30	4.10	2.15	Mrs. J. S. Moore, Sanford.
Mixed Fertilizer	4856	16.55	5.65	0.45	6.10	4.80	2.90	Joe Fernandez, Sanford.
Mixed Fertilizer No. 1..........	4857	11.62	7.88	2.72	10.60	4.78	2.05	C. J. Meriwether, Sanford.
Mixed Fertilizer No. 2..........	4858	9.35	5.80	4.50	10.30	4.90	3.25	C. J. Meriwether, Sanford.
Mixed Fertilizer	4859	8.68	7.85	4.40	12.25	4.45	1.43	Joe Meisch, Sanford.
Mixed Fertilizer	4860	8.18	7.65	4.55	12.20	4.45	1.38	Frank Meisch, Sanford.
Mixed Fertilizer	4861	10.52	6.10	1.70	7.80	4.32	2.96	L. A. Brumley, Sanford.
Mixed Fertilizer	4862	9.60	5.70	0.45	6.15	4.85	1.01	Mrs. J. S. Moore, Sanford.
Ground Bone..................	4863	.....	4.80	15.70	20.50	4.45	.....	Lawton Bros., Sanford.

Mixed Fertilizer	4864	13.37	4.55	2.25	6.80	5.20	3.51	John Bolly, Sanford.
Mixed Fertilizer	4865	12.67	6.45	0.60	7.05	4.40	2.98	W. J. Thigpen, Sanford.
Mixed Fertilizer	4866	11.62	6.53	1.77	8.30	4.75	3.01	C. J. Cranston, Sanford.
Mixed Fertilizer	4867	11.88	7.35	0.40	7.75	5.37	1.96	C. G. Bell, Sanford.
Mixed Fertilizer No. 1..........	4868	7.75	6.58	0.62	7.20	4.40	0.48	Rex Packard, Sanford.
Nitrate of Soda No. 2..........	4869	.....	.....	.....	.....	17.75	.....	Rex Packard, Sanford.
Tankage	4870	.....	2.95	5.25	8.20	10.37	.....	Joseph Cameron, Sanford.
Castor Bean Burrs..............	4871	.....	.....	.....	0.55	1.60	3.29	Esperanza Fruit Co., East Palatka.
Soft Phosphate Rock...........	4872	.....	4.05	27.30	31.35	.....	.....	Jones & Jones, Orlando.
Fertilizer	4873	6.52	6.90	0.70	7.60	3.35	6.88	R. L. DeMilly, Tallahassee.
Fertilizer	4874	4.70	8.15	0.25	8.40	3.50	0.14	L. M. Rhodes, Jacksonville.
Fertilizer No. 1................	4875	10.25	4.83	8.62	13.45	5.73	2.85	J. H. Sadler, Orlando.
Fertilizer No. 2...............	4876	9.30	8.68	8.20	16.80	4.40	.....	J. H. Sadler, Orlando.
Fertilizer	4877	7.28	3.95	4.90	8.85	8.75	.....	L. W. Tilden, Orlando.
Cotton Seed Meal.............	4878	.....	.....	.....	.....	5.95	.....	J. R. Williams, Citra.
Fertilizer	4879	2.36	7.90	0.10	8.00	4.25	1.90	Mrs. I. M. Starke, Beresford.

SPECIAL FERTILIZER ANALYSES, 1919.—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid			Ammonia.	Potash K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	4880	8.30	6.15	2.30	8.45	3.40	3.03	Dr. M. J. Barber, Vero.
Fertilizer	4881	11.65	8.35	1.35	9.70	4.40	3.55	E. N. Webb & Sons, Miami.
Fertilizer No. 1...............	4882	12.62	9.15	2.15	11.30	4.93	3.05	S. J. T. Seegar, Ocoee.
Fertilizer No. 2...............	4883	17.12	9.20	1.75	10.95	1.95	1.96	S. J. T. Seegar, Ocoee.
Fertilizer	4884	6.58	6.28	1.87	8.15	4.15	2.18	F. E. Hathaway, Orlando.
H. G. Fertilizer...............	4885	10.08	6.78	0.12	6.90	5.05	0.89	K. S. Parrish, Parrish.
Fertilizer	4886	13.20	5.30	4.00	9.30	5.87	3.78	W. N. Seegar, Ocoee.
Fertilizer	4887	6.90	11.83	0.57	12.40	3.95	4.11	W. L. Story, Winter Garden.
Fertilizer No. 1 (Tankage)......	4888	13.48	3.45	6.85	10.30	9.07	.....	L. W. Tilden, Winter Garden.
Fertilizer No. 2 (Acid Phosphate)	4889	9.32	17.38	0.22	17.60	.....	.....	L. W. Tilden, Winter Garden.
Fertilizer	4890	10.68	7.80	4.65	12.45	4.60	1.55	P. C. Parrish, Bowling Green.

Fertilizer	4891	6.28	9.35	0.25	9.60	4.55	1.09	R. A. Tillis, Hawthorn.
Mixed Fertilizer	4892	7.90	7.95	7.30	15.25	4.90	.....	L. H. Toussaint, Rio.
Fertilizer	4893	6.83	15.78	0.22	16.00	.....	1.83	Wiley Adams, Laurel Hill.
Fertilizer	4894	11.95	7.35	4.95	12.30	3.80	2.26	G. L. Comer, Oak Hill.
Cotton Seed Meal	4895	.....	.....	.....	.....	8.05	.....	W. W. Stott, Bonifay.
Acid Phosphate	4896	.....	17.05	0.30	17.35	.....	.....	W. W. Stott, Bonifay.
Fertilizer	4897	8.82	5.13	3.12	8.25	3.98	3.20	T. C. Aldrich, Florida City.
16% Phosphate	4898	.....	16.60	0.20	16.80	.....	.....	W. J. Singletary, Grand Ridge.
Fertilizer	4899	.....	18.50	1.60	20.10	.....	.....	L. S. Gregory, Greensboro.
Cotton Seed Meal	4900	.....	.....	.....	.....	7.87	.....	G. R. Stewart, Milton.
Sulphate of Potash	4901	.....	.....	.....	.....	.....	26.50	Paul M. Keely, Sanford.
Fertilizer No. 1	4902	9.87	4.10	7.35	11.45	9.65	.....	L. W. Tilden, Oakland.
Fertilizer No. 2	4903	7.47	5.40	8.65	13.05	6.80	.....	C. H. Tilden, Oakland.
Fertilizer No. 3	4904	15.37	9.93	0.42	10.35	4.25	0.66	S. J. Sligh, Orlando.
Fertilizer	4905	9.67	12.50	1.50	14.00	0.50	9.62	Ponce de Leon Groves, Viking.

SPECIAL FERTILIZER ANALYSES, 1919—Continued

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	4906	8.23	3.88	5.12	9.00	6.85	.....	The South Lake Apopka Citrus Growers' Association, Winter Garden.
Fertilizer	4907	6.93	5.70	7.70	13.40	8.25	.....	L. W. Tilden, Winter Garden.
Mixed Fertilizer	4908	9.30	.....	.....	0.60	7.02	5.52	Edwin Binney, Viking.
Fertilizer	4909	11.40	7.70	6.25	13.95	4.20	1.09	Standard Growers Exchange, Fort Myers.
Fertilizer No. 1	4910	9.87	7.00	7.10	14.10	3.50	3.93	L. M. Larsen, Piedmont.
Fertilizer No. 2	4911	9.92	7.30	6.70	14.00	3.47	4.23	Gerst Jackson, Piedmont.
Mixed Fertilizer	4912	7.58	6.73	2.07	8.80	5.45	3.43	C. J. Meriwether, Sanford.
Mixed Fertilizer	4913	5.03	3.48	1.42	5.90	4.65	4.50	Mahoney & Son, Sanford.
Nitrate of Soda	4914	.....	.....	.....	.....	17.15	.....	G. F. Smith, Sanford.

Mixed Fertilizer No. 1..........	4915	10.47	5.45	0.60	6.05	6.15	3.60	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 2..........	4916	12.40	7.90	1.70	9.60	6.17	0.85	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 3..........	4917	9.42	6.10	1.05	7.15	4.00	2.82	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 4..........	4918	10.13	8.45	2.00	10.45	5.52	0.36	O. P. Swope Land Co., Sanford.
Mixed Fertilizer No. 5..........	4919	8.38	14.15	1.67	15.82	3.35	0.28	O. P. Swope Land Co., Sanford.
Cotton Seed Meal..............	4920	.....	.....	.....	.....	7.45	.....	W. J. Singletary, Grand Ridge.
Fertilizer	4921	12.90	7.75	4.50	12.25	4.57	.....	A. L. Hearn, Homestead.
Fertilizer	4922	11.52	8.65	6.60	15.25	3.62	.....	J. A. Scarlett, DeLand.
Dried Bone.....................	4923	.....	.....	.....	.....	17.45	.....	G. F. Smith, Sanford.
Nitrate of Soda................	4924	4.00	.....	.....	.....	16.70	.....	W. P. Stone, Sanford.
Nitrate of Soda................	4925	4.02	.....	.....	.....	17.29	.....	M. M. Stewart, Sanford.
Steamed Bone	4926	4.40	5.55	17.50	23.05	4.80	.....	J. W. Osteen, Sanford.
Tankage	4927	11.72	4.80	8.15	12.95	6.75	.....	A. H. Moses, Sanford.
Mixed Fertilizer	4928	8.57	8.90	6.10	15.00	4.75	2.43	A. H. Moses, Sanford.
Mixed Fertilizer	4929	10.48	5.20	1.80	7.00	5.65	3.07	Joseph-Cameron, Sanford.
Mixed Fertilizer	4930	11.78	5.58	0.77	6.35	5.30	1.24	Henry Witte, Sanford.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	4931	6.05	7.53	0.87	8.40	4.57	0.68	G. C. Chamberlain, Sanford.
Fertilizer (No. 1)	4932	9.55	7.65	2.00	9.65	4.95	4.69	Standard Growers' Exchange, Arcadia.
Fertilizer (No. 2)	4933	9.68	5.85	1.95	7.80	4.08	4.39	Standard Growers' Exchange, Arcadia.
Fertilizer (No. 1)	4934	13.07	9.66	1.66	11.32	4.51	2.95	Manatee Fruit Co., Palmetto.
Fertilizer (No. 2)	4935	13.00	9.47	1.79	11.26	4.63	2.96	Manatee Fruit Co., Palmetto.
Fertilizer (No. 3)	4936	13.25	9.05	2.55	11.60	4.52	2.98	Manatee Fruit Co., Palmetto.
Fertilizer (No. 4)	4937	13.00	9.22	2.55	11.77	3.94	3.02	Manatee Fruit Co., Palmetto.
Fertilizer (No. 5)	4938	13.13	9.41	2.26	11.67	4.54	2.93	Manatee Fruit Co., Palmetto.
Fertilizer (No. 6)	4939	13.15	9.10	2.34	11.44	4.61	2.85	Manatee Fruit Co., Palmetto.
Fertilizer (No. 7)	4940	13.23	9.09	2.26	11.35	4.57	3.07	Manatee Fruit Co., Palmetto.

Fertilizer (No. 8)	4941	12.78	9.38	1.76	11.14	4.63	2.90	Manatee Fruit Co., Palmetto.
Fertilizer (No. 9)	4942	13.01	9.70	1.64	11.34	4.56	2.99	Manatee Fruit Co., Palmetto.
Fertilizer (No. 1)	4943	8.60	7.58	4.07	11.65	3.98	1.08	L. Wichtendahl, Gotha.
Fertilizer (No. 2) (Tankage)..	4944	12.20	4.50	8.85	13.35	6.60	.....	J. H. Sadler, Oakland.
Fertilizer	4945	11.42	8.43	0.67	9.10	4.25	2.75	R. H. Langford, Arcadia.
Fertilizer	4946	6.80	10.40	3.20	13.60	2.23	5.80	Mrs. I. M. Starke, Beresford.
Fertilizer	4947	13.53	6.03	3.42	9.45	5.15	0.89	S. J. T. Seegar, Ocoee.
Fertilizer (No. 2)	4948	8.78	5.90	0.25	6.15	4.52	3.02	S. J. T. Seegar, Ocoee.
Fertilizer	4949	9.20	7.30	1.90	9.20	4.65	1.33	Dozier & McElroy, Orlando.
Fertilizer	4950	12.23	4.50	8.30	12.80	6.30	.....	L. Wichtendahl, Orlando.
Fertilizer	4951	12.97	6.45	2.90	9.35	4.02	3.42	J. H. Sadler, Oakland.
Fertilizer	4952	11.77	4.35	3.90	8.25	3.95	4.15	W. J. Richard, Lake Hamilton.
Fertilizer (No. 10)	4953	13.90	9.42	1.78	11.20	4.28	3.23	Manatee Fruit Co., Palmetto.
Fertilizer(No. 11)	4954	11.57	9.24	1.74	10.98	4.49	3.21	Manatee Fruit Co., Palmetto.
(No. 498) Cotton Seed Meal...	4955	.....	.....	.....	....	7.25	.....	Graham & Shriver, Ft. Myers.
Fertilizer	4956	9.60	7.03	3.12	10.15	4.90	0.52	Harry R. Day, Grand Island.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	4957	8.25	5.95	1.25	7.20	4.10	3.16	W. J. J. Whidden, Bartow.
Fertilizer	4958	10.07	5.08	3.97	9.05	3.55	4.80	Stand. Growers' Exchange, Orlando.
Fertilizer	4959	7.80	9.85	7.45	17.30	4.60	0.29	J. L. Dillard, Winter Garden.
Fertilizer (No. 2)	4960	9.02	4.95	3.35	8.30	2.37	2.78	Conrad Menge, Estero.
Sample (No. 3)	4961	12.27	6.70	0.60	7.30	4.30	4.85	A. L. White, Ft. Myers.
Fertilizer	4962	19.13	5.20	3.30	8.50	4.53	4.25	Hill Crest Grove Co., St. Leo.
Mixed Fertilizer	4963	6.83	4.10	5.40	9.50	6.00	0.71	M. E. Card, Ft. Pierce.
Fertilizer (No. 6)	4964	12.40	5.50	2.20	7.70	4.95	2.69	S. C. Kelly, Ft. Myers.
Cottonseed Meal	4965	.....	.....	.....	.....	7.02	.....	Graham & Shriver, Ft. Myers.
Potash (Sample No. 4)	4966	.....	.....	.....	.....	.....	36.20	A. L. White, Ft. Myers.

Ground Dried Blood	4967	.....	.....	.....	.....	10.80	.....	G. F. Smith, Sanford.
Ashes	4968	.....	.....	.....	.....	.....	5.53	O. P. Swope Land Co., Sanford.
Mixed Fertilizer	4969	16.65	1.15	0.10	1.25	7.93	1.40	R. F. Symes, Sanford.
Mixed Fertilizer	4970	9.72	8.05	0.25	8.30	4.88	0.58	O. C. Bryant, Sanford.
Mixed Fertilizer	4971	10.17	7.88	0.22	8.10	2.65	2.05	J. J. Bolly, Sanford.
Mixed Fertilizer (No. 1)	4972	10.98	8.05	0.90	8.95	4.60	4.02	T. F. Adams, Sanford.
Mixed Fertilizer (No. 2)	4973	5.28	6.40	0.15	6.55	3.35	2.35	T. F. Adams, Sanford.
Mixed Fertilizer	4974	8.65	4.95	4.75	9.70	4.33	2.80	G. C. Chamberlin, Sanford.
Mixed Fertilizer (No. 1)	4975	8.37	6.35	0.55	6.90	3.65	2.33	J. D. Hood, Sanford.
Mixed Fertilizer (No. 2)	4976	10.85	8.20	1.10	9.30	4.53	4.35	J. D. Hood, Sanford.
Nitrate of Soda (No. 3)	4977	3.83	.....	.....	.....	17.08	.....	J. D. Hood, Sanford.
Tankage	4978	11.32	2.45	3.45	5.90	8.81	.....	C. G. Bell, Sanford.
Tankage (No. 1)	4979	6.22	3.60	6.30	9.90	9.15	.....	Joseph Cameron, Sanford.
Mixed Fertilizer (No. 2)	4980	9.03	6.85	2.15	9.00	4.13	2.93	Joseph Cameron, Sanford.
Mixed Fertilizer (No. 3)	4981	9.63	5.23	2.57	7.80	4.45	4.69	Joseph Cameron, Sanford.
Cottonseed Meal (No. 4)	4982	.....	.....	.....	.....	8.45	.....	Joseph Cameron, Sanford.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	4983	9.65	6.93	0.37	7.30	4.10	1.84	John Bolly, Sanford.
Mixed Fertilizer	4984	17.80	5.90	2.45	8.35	3.95	3.21	F. N. Esteridge, Sanford.
Mixed Fertilizer (No. 1)	4985	10.[illegible]2	8.80	0.25	9.05	4.25	.....	L. A. Brumley, Sanford.
Blood and Bone (No. 2)	4986	12.37	2.80	6.40	9.20	9.55	.....	L. A. Brumley, Sanford.
Blood and Bone	4987	17.88	2.80	6.30	9.10	8.60	.....	L. B. Mann, Sanford.
Blood and Bone (No. 1)	4988	6.89	3.45	6.95	10.40	9.55	.....	Mahoney & Son, Sanford.
Mixed Fertilizer (No. 2)	4989	9.40	5.05	2.25	7.30	4.03	5.29	Mahoney & Son, Sanford.
Mixed Fertilizer (No. 1)	4990	11.31	7.45	1.40	8.85	4.98	0.45	O. C. Bryant, Sanford.
Mixed Fertilizer (No. 2)	4991	12.36	6.57	3.03	9.60	5.88	0.81	O. C. Bryant, Sanford.
Mixed Fertilizer	4992	11.02	6.30	1.10	7.40	3.95	3.10	W. J. Thigpen, Sanford.

Pulverized Steamed Bone	4993	5.53	8.50	16.90	25.40	3.50	.....	R. J. Shimmons, Sanford.
Dried Blood	4994	.....	.....	.....	.....	16.50	.....	R. J. Shimmons, Sanford.
Mixed Fertilizer (No. 3)	4995	18.16	5.68	3.72	9.40	5.25	1.61	R. J. Shimmons, Sanford.
Mixed Fertilizer	4996	6.25	8.55	0.95	9.50	3.70	2.45	F. M. Cameron, Sanford.
Cottonseed Meal (No. 9)	4997	.....	.....	.....	.....	7.10	.....	Gene Shannahan, Ft. Myers.
Fertilizer	4998	12.75	10.90	2.00	12.90	4.90	0.64	S. S. Coachman, Largo.
Fertilizer	4999	12.37	4.90	3.55	8.45	4.43	4.66	Hill Crest Groves Co., St. Leo.
Uncut Tobacco Stems	5000	21.40	.....	.....	.....	2.58	7.29	J. M. Evans, Sanford.
Fertilizer	5001	14.68	7.25	2.55	9.80	4.63	2.40	R. Jenny, Ft. Myers.
Fertilizer	5002	12.08	8.30	7.50	15.80	4.40	2.25	Buckeye Lime Growers' Association Homestead.
Blood and Bone No. 1	5003	8.40	5.60	10.40	16.00	6.87	.....	G. W. Spencer, Sanford.
Mixed Fertilizer (No. 2)	5004	9.62	5.95	3.65	9.60	5.60	5.11	G. W. Spencer, Sanford.
Nitrate of Soda (No. 3)	5005	3.44	.....	.....	.....	19.12	.....	G. W. Spencer, Sanford.
Castor Pomace (No. 4)	5006	.....	.....	.....	.....	8.30	.....	G. W. Spencer, Sanford.
Goat Manure (No. 5)	5007	19.68	0.70	0.05	0.75	1.85	2.84	G. W. Spencer, Sanford.
Ashes (No. 6)	5008	10.43	.....	.....	.....	.....	2.28	G. W. Spencer, Sanford.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Cottonseed Meal	5009	.....	.....	.....	.....	8.30	.....	Rudolf Jenny, Ft. Myers.
Cottonseed Meal	5010	.....	.....	.....	.....	8.27	.....	L. Santina, Ft. Myers.
"Flumafo"	5011	12.37	6.90	0.10	7.00	3.30	.....	Henry Nickel, Sanford.
Fertilizer	5012	9.90	5.55	2.65	8.20	4.30	2.73	Fulton & Stone, Ft. Myers.
Fertilizer	5013	8.37	6.95	2.35	9.30	8.35	2.80	J. W. Pixton, Ft. Myers.
Fertilizer	5014	11.27	6.73	2.17	8.90	5.60	3.10	H. L. Abell, Ft. Myers.
Fertilizer (Ground Phosphate)	5015	.....	.....	.....	21.00	.....	.....	H. A. Pace, Orlando.
Pigeon Manure	5016	18.61	1.25	0.04	1.29	5.45	1.17	C. M. Berry, Sanford.
Fertilizer	5017	13.13	7.35	0.90	8.25	4.60	1.74	Sherwood & Baum, Ft. Myers.
Angora Goat Manure	5018	15.75	0.45	0.05	0.50	2.40	0.97	Fred S. Gray, Callahan.

Fertilizer	5019	10.95	6.10	2.40	8.50	5.35	1.74	C. E. Bronson, Ft. Myers.
Complete Fertilizer	5020	10.82	8.18	2.57	10.75	4.65	3.90	DeSoto Fruit Co., Nocatee.
Mixed Fertilizer	5021	14.37	5.35	3.30	8.65	4.25	3.24	O. J. Pope, Sanford.
Mixed Fertilizer	5022	13.83	5.10	3.80	9.50	4.52	3.13	J B. Little, Sanford.
Castor Pomace	5023	9.18	....	.....	2.10	7.35	0.72	J. B. Little, Sanford.
Castor Pomace	5024	9.85	....	.....	2.20	6.93	0.54	J. D. Hood, Sanford.
Cotton Seed Meal No. 2	5025	8.75	....	.....	2.80	7.85	1.90	I. E. Esteridge, Sanford.
Blood and Bone	5026	7.02	6.70	9.50	16.20	6.67	.....	Charles Dunn, Sanford.
Ashes No. 1	5027	11.22	....	.....	....	.....	2.64	J. D. Hood, Sanford.
Ashes No. 1	5028	11.13	....	.....	.....	.....	2.49	I. E. Esteridge, Sanford.
Sheep Manure No. 3	5029	11.28	1.12	0.08	1.20	2.45	2.84	I. E Esteridge, Sanford.
Ashes No. 1	5030	9.50	....	.....	.....	.....	2.48	C. J. Meriwether, Sanford
Kainit No. 4	5031	2.63	....	.....	.....	.....	14.15	C. J. Meriwether, Sanford
Castor Pomace No. 2	5032	9.50	....	.....	.....	6.30	....	C. J. Meriwether, Sanford.
Mixed Fertilizer	5033	14.15	4.10	3.10	7.20	5.45	5.18	C. J. Meriwether, Sanford.
Mixed Fertilizer No. 1	5034	12.16	3.88	3.42	7.30	4.10	6.77	A. R. Meriwether, Sanford.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer No. 2	5035	12.77	3.85	3.15	7.00	5.25	5.55	A. R. Meriwether, Sanford.
Tankage No. 1	5036	5.58	4.60	11.20	15.80	6.90	.....	L. A. Brumley, Sanford.
Ground Bone No. 2	5037	6.08	5.20	17.70	22.90	4.80	.....	L. A. Brumley, Sanford.
Mixed Fertilizer No. 1..........	5038	14.55	4.25	3.00	7.25	5.30	5.29	R. O Meriwether, Sanford.
Pulverized Tobacco Stems No. 2.	5039	7.88	.....	.....	.....	2.65	6.83	R. O. Meriwether, Sanford.
Castor Pomace No. 2	5040	.....	.....	.....	.....	6.75	.....	W. A. Raynor, Sanford.
Tankage No. 1	5041	12.30	4.17	1.03	5.20	10.40	.....	W. A. Raynor, Sanford.
Blood and Bone No. 1	5042	5.97	6.20	11.50	17.70	6.88	.....	L. A. Brumley, Sanford.
Raw Bone Meal No. 2	5043	6.42	7.10	16.70	23.80	5.24	.....	L. A. Brumley, Sanford.
Tankage No. 1	5044	9.58	4.75	8.65	13.40	7.57	.....	R. H. Muirhead, Sanford.

Raw Bone No. 2	5045	5.48	5.25	17.70	22.95	5.07	.....	R. H. Muirhead, Sanford.
Tankage (Blood and Bone) No. 1	5046	15.40	4.00	8.05	12.05	7.60	.....	E. L. Brown, Sanford.
Mixed Fertilizer No. 2	5047	13.05	6.95	3.05	10.00	4.32	3.04	E. L. Brown, Sanford.
Mixed Fertilizer	5048	12.67	7.82	2.68	10.50	5.20	5.04	J. D. Hood, Sanford.
Mixed Fertilizer	5049	8.77	5.50	1.70	7.20	4.30	2.64	J. M. Brown, Sanford.
Fertilizer	5050	13.33	5.33	3.07	8.40	3.62	8.36	Ponce de Leon Groves, Indrio.
Cotton Seed Meal	5051	9.58	.....	.....	.....	7.65	.....	C. J. Bell, Sanford.
Ashes No. 2	5052	8.70	.....	.....	.....	.....	3.39	Ed. Cameron, Sanford.
Castor Pomace No. 1	5053	11.30	.....	.....	.....	6.78	.....	J. E. Pace, Sanford.
Ashes No. 1	5054	8.10	.....	.....	.....	.....	2.25	Joseph Cameron, Sanford.
Castor Pomace No. 2	5055	10.82	.....	.....	.....	7.13	.....	B. E. Squires, Sanford.
Ground Tobacco Dust No. 1	5056	14.73	.....	.....	.....	2.68	7.44	D. V. Warren, Sanford.
Pulverized Tobacco Stems No. 3	5057	9.48	.....	.....	.....	2.70	7.43	C. Bell, Sanford.
Mixed Fertilizer No. 2	5058	12.70	4.55	2.75	7.30	5.78	5.39	D. V. Warren, Sanford.
Mixed Fertilizer No. 3 Special	5059	11.27	4.75	2.95	7.70	6.25	4.75	D. V. Warren, Sanford.
Mixed Fertilizer No. 1	5069	13.62	4.00	2.90	6.90	4.80	5.72	Joe Fernandez, Sanford.

SPECIAL FERTILIZER ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer No. 2	5061	15.48	5.95	1.60	7.55	3.90	3.40	Joe Fernandez, Sanford.
Mixed Fertilizer No. 3	5062	13 78	6.65	3.40	10.05	5.02	2.46	Joseph Cameron, Sanford.
Mixed Fertilizer No. 2	5063	13.75	4.95	0.95	5.90	4.90	4.70	J. F. McClelland, Sanford.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. OFFICIAL FERTILIZER ANALYSES, 1919. FRANK T. WILSON, Asst. Chemist
Samples Taken by Inspectors Under Sections 1 and 2, Act Approved May 22, 1905.

NAME, OR BRAND.	Laboratory Number.	*Analyses.* Guaranteed and Found.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Phos-Pho-Germ	2558	Guaranteed	No Guarantee Tag. No Inspection Stamp.						
Illegal		Found.....	16.45	0.65	13.05	13.70	1.55	0.19	Nitro-Phospho Corporation, Ocala, Fla.
Seized 9 Packages, February 25, 1919, Ft. Pierce, Fla. Sections 3, 5 and 6, Fertilizer Law.									
Phos-Pho-Germ	2559	Guaranteed	No Guarantee Tag. No Inspection Stamp.						
Illegal		Found.....	9.90	0.75	13.10	13.85	1.33	0.23	Nitro-Phospho Corporation, Ocala, Fla.
Seized 14 Packages, Feb. 26 and 28, 1919, Ft. Lauderdale and White City, Fla. Secs. 3, 5 & 6, Fertilizer Law.									
Phos-Pho-Germ	2560	Guaranteed	No Guarantee Tag. No Inspection Stamp.						
Illegal		Found.....	17.68	0.70	13.60	14.30	1.15	0.16	Nitro-Phospho Corporation, Ocala, Fla.
Seized 35 Packages, March 6, 1919, Ft. Lauderdale, Fla. Sections 3, 5 and 6, Fertilizer Law.									
Phos-Pho-Germ	2561	Guaranteed	No Guarantee Tag. No Inspection Stamp.						
Illegal		Found.....	17.68	0.70	13.60	14.30	1.15	0.16	Nitro-Phospho Corporation, Ocala, Fla.
Seized 87 Packages, March 5 and 6, 1919, Oneco, Bradentown and Manatee, Fla. Sections 3, 5 and 6, Fertilizer Law.									

Illegal, not registered, no guarantee tag, no stamp.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. ROSE, State Chemist. SPECIAL FEEDING STUFF ANALYSES, 1919, E. PECK GREENE, Asst. Chemist.

Samples Taken by Purchaser Under Section 9, Act Approved May 24, 1905.

NAME, OR BRAND.	Laboratory Number.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	BY WHOM SENT.
Egg Substitute	468	......	11.67	70.09	3.75	3.72	State Laboratory, Tallahassee.
Check Meal, January	469	......	45.63	......	8.60	......	F. N. Smalley, Savannah, Ga.
Egg Substitute	470	......	18.43	62.92	......	9.70	State Laboratory, Tallahassee.
Egg Flour	471	......	43.44	2.57	41.17	5.87	State Laboratory, Tallahassee.
Egg White	472	......	40.54	44.84	......	2.47	State Laboratory, Tallahassee.
Whole Egg	473	......	39.31	5.90	43.52	4.77	State Laboratory, Tallahassee.
Egg White	474	......	37.47	47.04	......	2.62	State Laboratory, Tallahassee.
Egg Yolk	475	......	38.26	6.15	45.75	4.32	State Laboratory, Tallahassee.
Check Meal	476	......	39.65	......	10.58	......	F. N. Smalley, Savannah, Ga.
Stock Feed	477	9.32	8.78	64.33	2.95	2.77	E. Peck Greene, Tallahassee.

Cotton Seed Meal	478	......	36.30	......	......	......	Embry Tobacco Co., Quincy.
Check Meal, June	479	......	43.00	......	8.67	......	F. N. Smalley, Savannah, Ga.
Avocado Pear	480	1.62	1.97	3.40	18.52	1.17	State Laboratory, Tallahassee.
Check Meal No. 32	481	......	45.83	......	8.25	......	F. N. Smalley, Savannah, Ga.
Check Meal No. 36	482	......	40.84	......	7.92	......	F. N. Smalley, Savannah, Ga.
Check Meal No. 40	483	......	44.80	......	8.00	......	F. N. Smalley, Savannah, Ga.
Check Meal No. 41	484	......	43.52	......	7.82	......	F. N. Smalley, Savannah, Ga.
Egg Substitute	485	......	16.50	62.61	......	9.32	State Laboratory, Tallahassee.
Egg Substitute	486	......	12.10	60.28	2.60	2.97	State Laboratory, Tallahassee.
Egg Substitute	487	......	16.50	48.41	23.87	2.05	State Laboratory, Tallahassee.
Egg Substitute	488	......	9.01	77.62	......	1.45	State Laboratory, Tallahassee.
Egg Substitute	489	......	12.36	66.79	2.85	5.30	State Laboratory, Tallahassee.
Wheat Shorts	490	7.45	17.72	53.44	4.85	6.17	John M. Scott, Gainesville.
Feeding Stuff	491	12.32	35.02	32.72	5.32	5.65	J. H. Hughes, Orlando.
Cotton Seed Meal	492	......	20.34	......	......	......	A. D. Anderson, Compass Lake.

SPECIAL FEEDING STUFF ANALYSES, 1919—Continued.

BY WHOM SENT.	Laboratory Number.	Fibre.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat	Ash.	NAME, OR BRAND
Cotton Seed Meal	493	......	33.73	......	......	......	G. E. Kemp, Havana
Cotton Seed Meal	494	......	34.76	......	......	......	W. J. Singletary, Grand Ridge.
Feeding Stuff No. 1	495	11.20	13.82	56.23	3.05	4.85	E. P. Greene, Tallahassee.
Feeding Stuff No. 2	496	10.85	13.60	57.68	2.95	4.02	E. P. Greene, Tallahassee.
Peanut Feed	497	23.15	29.92	20.59	14.52	4.70	W. W. Hampton, Gainesville.
Cotton Seed Meal No. 5	498	......	37.35	......	......	......	Graham & Shriver, Fort Myers.
Florida Mule Feed	499	11.34	6.72	52.33	1.61	11.36	A. S. Baker, Jacksonville.
O-U Mule Feed	500	12.00	6.95	52.42	1.60	11.26	A. S. Baker, Jacksonville.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. ROSE, State Chemist. OFFICIAL FEEDING STUFF ANALYSES, 1919. E. PECK GREENE, Asst. Chemist.

Samples Taken by State Chemist and State Inspectors Under Sections 1, 2 and 13, Act Approved May 24, 1905.
Deficiencies Greater than 0.20% are Distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Dried Beet Pulp	2845	Guaranteed	20.00	8.00	58.00	0.50	......	Northern Sugar Corp., Mason City, Iowa.
		Found.....	20.57	9.74	**55.80**	0.52	3.20	
Southern Scratch Feed	2846	Guaranteed	4.00	11.00	65.00	3.60	......	J. T. Gibbons, New Orleans, La.
		Found.....	3.77	11.41	65.36	**2.52**	4.57	
Hog and Cattle Feed	2847	Guaranteed	8.00	12.00	60.00	3.00	......	Peerless Milling and Feed Co., Cairo, Ill.
		Found.....	5.07	12.18	62.86	**1.72**	3.90	
Rice Bran	2848	Guaranteed	12.00	11.50	42.00	8.50	......	J. T. Gibbons, New Orleans, La.
		Found.....	9.97	13.60	45.73	9.20	10.65	
Premium Dairy Feed	2849	Guaranteed	15.00	26.50	45.00	6.00	......	Monarch Mills, Chattanooga, Tenn.
		Found.....	15.10	26.00	**36.60**	6.77	5.60	
Larro-Feed	2850	Guaranteed	14.00	20.00	50.00	3.00	......	The Larrowe Milling Co., Detroit, Mich.
		Found.....	11.00	20.18	**47.30**	5.27	5.55	

Rabbit Mule Feed	2851	Guaranteed	......	......	......	......	......	M. C. Peters Milling Co., Omaha, Neb.
		Found	13.50	11.71	49.27	1.73	7.47	
Florida Peanut Feed	2852	Guaranteed	26.00	33.50	22.50	6.00	......	Florida Peanut Oil Co., Malone, Fla.
		Found	24.40	34.96	23.35	7.12	3.22	
Rice Bran	2853	Guaranteed	10.00	12.50	40.00	11.50	......	The Adler Export Co., New Orleans, La.
		Found	14.95	13.25	42.24	10.32	10.92	
Victor Feed	2854	Guaranteed	12.00	8.00	62.00	3.00	......	The Quaker Oats Co., Chicago, Ill.
		Found	9.90	9.13	62.96	2.37	6.07	
Second Class Cotton Seed Meal	2855	Guaranteed	......	36.00	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Found	11.40	37.60	28.98	8.90	5.27	
Stampede Molasses Feed	2856	Guaranteed	16.00	9.00	55.00	1.50	......	National Milling Co., Macon, Ga.
		Found	10.98	9.18	57.54	2.04	6.79	
Superior Oat Ration No. 2	2857	Guaranteed	12.00	10.00	50.00	2.50	......	The Superior Feed Co., Memphis, Tenn.
		Found	14.40	10.26	53.03	2.37	6.49	
Happy Cow Feed	2858	Guaranteed	16.50	17.00	50.00	2.50	......	Edgar-Morgan Co., Memphis, Tenn.
		Found	11.31	16.24	49.74	2.38	6.71	
Bay Mule Molasses Feed	2859	Guaranteed	14.00	8.50	49.00	1.50	......	Milam-Morgan Co., New Orleans, La.
		Found	18.32	7.95	53.80	1.81	5.09	
Oat Cc. Horse and Mule Feed	2860	Guaranteed	16.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found	11.85	11.50	57.40	3.92	4.99	

OFFICIAL FEEDING STUFF ANALYSES, 1919.—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Valdo Pig Feed	2861	Guaranteed	15.00	15.00	45.00	5.00	......	South Georgia Milling Co., Valdosta, Ga.
		Found.....	10.97	15.80	53.78	**4.15**	4.65	
Oatrashun Stock Feed.........	2862	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	13.14	12.12	**53.80**	3.70	6.53	
Big Value Horse and Mule Feed.	2863	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	13.65	10.84	54.97	2.68	6.04	
Ambrosia Horse and Mule Feed	2864	Guaranteed	13.50	9.00	55.00	2.00	......	Alfocorn Milling Co., East St. Louis, Ill.
		Found.....	9.87	9.87	59.26	2.52	5.57	
Marco Horse and Mule Feed...	2865	Guaranteed	10.00	10.00	57.00	2.75	......	Marco Mills, Pine Bluff, Ark.
		Found.....	8.85	10.72	61.95	**2.47**	5.39	
Crown Horse Feed	2866	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	8.88	9.98	**57.39**	2.90	7.04	
Chisca Stock Sweet Feed......	2867	Guaranteed	20.00	9.00	50.00	1.75	......	The Buckeye Cotton Oil Co., Memphis, Tenn.
		Found.....	21.53	10.54	**48.72**	**1.09**	5.54	
Daisy Dairy Feed	2868	Guaranteed	12.50	13.25	55.00	3.50	......	Sutherland Flour Mills Co., Cairo, Ill.
		Found.....	12.67	**7.90**	**54.32**	**0.99**	7.44	

Purina-O Molene Feed	2869	Guaranteed	8.00	9.70	61.00	3.20	......	Purina Mills, St. Louis Mo.
		Found.....	6.29	10.20	61.38	3.36	5.29	
Velvet Bean Feed Meal	2870	Guaranteed	14.00	17.50	50.00	4.00	......	Hand & Co., Geneva, Ala.
		Found.....	12.02	17.94	49.23	4.72	3.97	
Wheat Bran with Screenings	2871	Guaranteed	11.00	15.00	55.00	3.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	9.95	15.62	52.41	3.35	7.07	
Premium XXXX Stock Feed	2872	Guaranteed	15.00	9.00	55.00	2.00	......	Sutherland Flour Mills Co., Cairo, Ill.
		Found.....	18.45	9.92	50.95	2.82	6.30	
Velvet Bean and Pod Feed	2873	Guaranteed	15.00	16.50	50.00	4.00	......	Alabama Black Belt Co., Montgomery, Ala.
		Found.....	12.75	19.00	46.03	3.17	6.40	
Rice Bran	2874	Guaranteed	12.00	13.00	40.00	10.00	......	Benedict Commission Co., New Orleans, La.
		Found.....	9.92	13.47	42.97	12.72	11.27	
Rice Bran	2875	Guaranteed	10.00	12.50	45.00	11.50	......	Hoskins Trading Co., New Orleans, La.
		Found.....	7.97	13.04	47.64	13.70	10.10	
Scoco 33% Protein Peanut Feed	2876	Guaranteed	22.00	33.00	26.00	7.00	......	The Southern Cotton Oil Pensacola, Fla.
		Found.....	29.45	29.22	21.17	5.57	3.92	
Gilt Edge Cotton Seed Feed	2877	Guaranteed	14.00	36.00	30.00	6.00	......	Empire Cotton Oil Co., Atlanta, Ga.
		Found.....	9.62	34.70	35.31	5.22	6.20	
Wheat Middlings with Screenings	2878	Guaranteed	6.50	17.00	55.00	4.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	4.60	18.87	55.56	3.85	5.10	

OFFICIAL FEEDING STUFF ANALYSIS, 1919.—Continued.

NAME, OR BRAND	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Blish's Bull's Eye Mixed Feed..	2879	Guaranteed	9.10	16.00	......	4.40	......	Blish Milling Co., Seymour, Ind.
		Found.....	6.92	16.67	53.91	4.60	6.70	
Wheat Middlings with Screenings	2880	Guaranteed	6.50	17.00	55.00	4.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	6.27	18.65	54.78	4.55	4.85	
Pure Wheat Bran	2881	Guaranteed	9.44	15.54	56.08	4.03	......	Home Mill and Grain Co., Mt. Vernon, Ind.
		Found.....	8.85	15.14	52.15	3.52	8.62	
Wheat Mixed Feed	2882	Guaranteed	8.00	14.50	55.00	4.00	......	Standard-Tilton Milling Co., St. Louis, Mo.
		Found.....	7.70	17.29	51.09	4.42	7.25	
Pure Wheat Shorts............	2883	Guaranteed	6.00	17.10	52.20	5.10	......	Home Mill & Grain Co., Mt. Vernon, Ind.
		Found.....	5.70	17.24	55.25	4.50	5.90	
Just Chicken Gumbo..........	2884	Guaranteed	9.00	19.00	50.00	4.00	......	Just Mills, Nashville, Tenn.
		Found.....	7.97	22.82	46.84	3.60	6.87	
Scoco 33% Protein Peanut Feed	2885	Guaranteed	22.00	33.00	26.00	7.00	......	The Southern Cotton Oil Co., Pensacola, Fla.
		Found.....	20.27	34.45	24.16	7.12	3.90	

Wheat Shorts and Screenings..	2886	Guaranteed	8.00	14.50	52.00	4.50	......	The J. C. Lysle Milling Co. Leavenworth, Kan.
		Found.....	6.00	17.72	55.06	4.47	4.90	
Premium Dairy Feed..........	2887	Guaranteed	15.00	26.00	45.00	5.00	......	Monarch Mills, Chattanooga, Tenn.
		Found.....	18.15	21.59	38.62	6.05	6.07	
Black Jack Horse and Mule Feed	2888	Guaranteed	20.00	9.00	50.00	1.50	......	The Superior Feed Co., Memphis, Tenn.
		Found.....	17.13	7.05	54.58	3.22	6.22	
Mascot Horse and Mule Feed..	2889	Guaranteed	18.00	9.00	50.00	1.50	......	Golden Grain Milling Co., East St. Louis, Ill.
		Found.....	13.20	10.66	51.99	1.37	7.67	
Eureka Sweet Feed...........	2890	Guaranteed	15.00	9.00	50.00	2.00	......	Royal Feed & Milling Co., Memphis, Tenn.
		Found.....	15.59	11.59	49.67	2.21	8.46	
Krak-a-Jack Horse Feed.......	2891	Guaranteed	15.00	10.00	55.00	2.00	......	The Superior Feed Co., Memphis, Tenn.
		Found.....	15.07	10.27	49.52	2.16	7.66	
Manna Sweet Feed............	2892	Guaranteed	12.00	9.00	55.00	2.00	......	Edgar-Morgan Co., Memphis, Tenn.
		Found.....	11.29	11.21	53.84	2.39	7.08	
Big Ben Horse and Mule Feed.	2893	Guaranteed	12.00	9.00	55.00	2.00	......	Golden Grain Milling Co., East St. Louis, Ill.
		Found.....	11.17	11.84	54.60	2.99	6.79	
Peters' "Rabbit" Mule Feed....	2894	Guaranteed	18.00	10.00	50.00	1.50	......	M. C. Peters Mill Co., Omaha, Neb.
		Found.....	14.67	11.90	48.76	3.14	6.60	
Tip Top Molasses Feed........	2895	Guaranteed	16.00	9.00	55.00	1.50	......	National Milling Co., Macon, Ga.
		Found.....	11.70	9.29	58.54	3.21	6.37	

OFFICIAL FEED STUFF ANALYSIS, 1919.—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Alfa-Oats Horse and Mule Feed.	2896	Guaranteed	13.50	9.00	55.00	2.00	......	Alfocorn Milling Co., East St. Louis, Ill.
		Found.....	12.08	11.74	49.72	3.87	7.39	
Big Ben Horse and Mule Feed.	2897	Guaranteed	12.00	9.00	55.00	2.00	......	Golden Grain Milling Co., East St. Louis, Ill.
		Found.....	11.24	10.82	53.86	3.82	7.03	
Black Jack Horse and Mule Feed	2898	Guaranteed	20.00	9.00	50.00	1.50	......	The Superior Feed Co., Memphis, Tenn.
		Found.....	18.76	6.86	53.16	2.39	5.45	
Big Value Horse and Mule Feed	2899	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	11.47	12.05	56.00	4.43	6.30	
Cotton Seed Meal.............	2900	Guaranteed	......	38.62	......	......	......	The Southern Cotton Oil Co., Pensacola, Fla.
		Found.....	......	35.79	......	......	......	
Durham Brand Cotton Seed Meal	2901	Guaranteed	22.00	20.00	38.00	5.00	......	Lanier Bros., Nashville, Tenn.
		Found.....	21.85	20.62	39.41	3.77	4.70	
Florida Peanut Feed..........	2902	Guaranteed	26.00	33.50	22.50	6.00	......	Florida Peanut Oil Co., Malone, Fla.
		Found.....	23.72	34.35	22.58	8.50	3.75	
Milk Made Dairy Feed........	2903	Guaranteed	15.00	24.00	48.00	5.00	......	International Sugar Feed Co., Memphis, Tenn.
		Found.....	8.75	23.78	45.40	5.87	7.17	

Economy Ox Feed............	2904	Guaranteed	16.86	11.39	44.49	2.64	......	Cottondale Milling Co., Cottondale, Fla.
		Found.....	15.50	13.82	53.37	3.07	4.37	
Durham Stock Feed...........	2905	Guaranteed	12.00	14.00	51.00	3.00	......	Atlanta Milling Co., Atlanta, Ga.
		Found.....	7.05	16.32	56.16	4.50	5.22	
Vaca Dairy Feed.............	2906	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull & Fibre Co., Memphis, Tenn.
		Found.....	24.47	14.40	45.59	2.52	3.42	
Southern Mule Feed...........	2907	Guaranteed	23.00	9.00	45.00	2.50	......	Purina Mills, St. Louis, Mo.
		Found.....	11.88	8.57	57.54	3.83	6.37	
Peters' "Arab" Horse Feed....	2908	Guaranteed	15.00	10.00	59.00	2.00	......	M. C. Peters Mill Co., Omaha, Neb.
		Found.....	11.67	11.95	54.56	1.72	4.68	
Green Cross Horse Mixed Feed	2909	Guaranteed	12.00	10.00	62.00	2.50	......	The Quaker Oats Co., Chicago, Ill.
		Found.....	11.77	10.72	59.03	2.37	5.75	
East Coast Sweet Feed........	2910	Guaranteed	12.00	9.00	57.00	1.50	......	Consolidated Gro. Co., Jacksonville, Fla.
		Found.....	12.50	10.62	58.30	3.04	6.25	
Tip Top Molasses Feed........	2911	Guaranteed	12.00	9.00	60.00	2.30	......	Howell Grain & Feed Co., Union City, Tenn.
		Found.....	16.62	9.58	51.62	2.37	8.20	
Milk Made Dairy Feed.........	2912	Guaranteed	15.00	24.00	48.00	5.00	......	International Sugar Feed Co., Memphis, Tenn.
		Found.....	10.75	22.38	45.67	5.60	7.65	
Mayo's Mixed Feed............	2913	Guaranteed	10.00	13.00	65.00	4.75	......	Mayo Milling Co., Richmond, Va.
		Found.....	4.02	12.37	65.52	3.62	3.55	

OFFICIAL FEEDING STUFF ANALYSES, 1919—Continued.

NAME OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Happy Hog Feed	2914	Guaranteed	15.00	18.00	50.00	5.50	......	Edgar-Morgan Co., Memphis, Tenn.
		Found	10.90	18.12	44.91	9.00	8.07	
Just Chicken Gumbo	2915	Guaranteed	9.00	19.00	50.00	4.00	......	Just Mills, Nashville, Tenn.
		Found	8.75	21.50	47.16	3.32	8.00	
Wheat Middlings with Screenings	2916	Guaranteed	6.00	17.25	57.00	4.96	......	Bernet, Craft & Kauffman Milling Co., St. Louis, Mo.
		Found	4.82	17.76	57.25	4.47	5.00	
"Hunter" Horse and Mule Feed.	2917	Guaranteed	14.00	9.00	60.00	2.00	......	Grain Belt Mills Co., South St. Joseph, Mo.
		Found	10.06	9.38	57.57	2.58	6.42	
Velvo Dairy Feed	2918	Guaranteed	14.00	16.00	48.00	3.50	......	South Georgia Milling Co., Valdosta, Ga.
		Found	18.62	15.09	47.50	3.50	5.87	
Crown Horse Feed	2919	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	10.52	10.40	57.74	2.67	5.51	
Just Dairy Feed	2920	Guaranteed	12.00	24.00	42.00	4.10	......	Just Mills, Nashville, Tenn.
		Found	7.03	9.86	62.18	4.03	4.25	

"Bronco" Horse and Mule Feed	2921	Guaranteed	15.00	10.00	50.00	1.50	......	Grain Belt Mills Co., South St. Joseph, Mo.
		Found.....	13.72	10.27	48.43	1.66	9.30	
Old Black Joe Horse and Mule Feed	2922	Guaranteed	20.00	9.00	50.00	1.50	......	Royal Feed & Milling Co.. Memphis, Tenn.
		Found.....	15.65	10.65	52.27	1.85	6.96	
Second Class Cotton Seed Meal	2923	Guaranteed	......	36.05	......	......	......	Americus Oil Co., Americus, Ga.
		Found.....	......	37.08	......	......	......	
Cotton Seed Meal.............	2924	Guaranteed	......	36.05	......	......	......	Goulding Fertilizer Works, Pensacola, Fla.
		Found.....	......	35.80	......	......	......	
Low Grade Cotton Seed Meal..	2925	Guaranteed	......	36.05	......	......	......	Houstoun Cotton Oil Co., Grovania, Ga.
		Found.....	......	36.30	......	......	......	
Low Grade Cotton Seed Meal..	2926	Guaranteed	......	36.05	......	......	......	The Buckeye Cotton Oil Co., Macon, Ga.
		Found.....	......	39.65	......	......	......	
Second Class Cotton Seed Meal	2927	Guaranteed	......	36.05	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Found.....	......	42.23	......	......	......	
Second Class Cotton Seed Meal	2928	Guaranteed	......	36.05	......	......	......	Houstoun Cotton Oil Co., Grovania, Ga.
		Found.....	......	35.90	......	......	......	
Eureka Hog Feed.............	2929	Guaranteed	12.00	15.00	50.00	4.00	......	Royal Feed & Milling Co., Memphis, Tenn.
		Found.....	9.90	14.76	54.14	4.98	5.17	
Red Cow Dairy Feed..........	2930	Guaranteed	8.50	14.04	58.96	2.85	......	Merchant Mills, Montgomery, Ala.
		Found.....	11.52	14.57	54.41	3.47	4.78	

OFFICIAL FEEDING STUFF ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Velvet Bean Feed............	2931	Guaranteed	13.00	17.00	48.00	4.00	......	South Georgia Milling Co., Valdosta, Ga.
		Found.....	11.37	18.21	52.88	4.37	3.75	
XXX Dairy Feed.............	2932	Guaranteed	25.00	15.00	45.00	3.00	......	Monarch Mills, Chattanooga, Tenn.
		Found.....	22.75	14.92	45.38	2.55	4.40	
Holstein Brand Cotton Seed Meal	2933	Guaranteed	14.00	36.00	22.00	5.00	......	Lanier Bros., Nashville, Tenn.
		Found.....	14.80	35.89	27.06	7.70	5.50	
Cotton Seed Meal......	2934	Guaranteed	27.00	20.00	38.00	3.00	......	Florida Peanut Milling Co., Gainesville, Fla.
		Found.....	17.45	27.42	31.93	7.70	6.40	
Economy Scratch Feed........	2935	Guaranteed	6.00	10.00	50.00	2.50	......	Seaboard Feed & Produce Co., Henderson, N. C.
		Found.....	4.71	10.71	66.31	4.22	2.30	
Economy Scratch Feed........	2938	Guaranteed	6.00	10.00	50.00	2.50	......	Seaboard Feed & Produce Co., Henderson, N. C.
		Found.....	3.35	10.44	67.72	3.82	2.00	
O-U Mule Feed...............	2939	Guaranteed	15.00	4.59	52.00	1.24	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	10.10	5.34	51.50	1.72	11.47	
Peters' King Corn Horse and Mule Feed.................	2940	Guaranteed	18.00	10.00	50.00	1.50	......	M. C. Peters Mill Co.. Omaha, Neb.
		Found.....	13.83	11.32	51.62	3.17	5.34	

Alfa-Oats Horse and Mule Feed	2941	Guaranteed	13.50	9.00	55.00	2.00	......	Alfocorn Milling Co., East St. Louis, Ill.
		Found.....	12.40	12.89	56.72	3.62	4.86	
Echo Springs Horse and Mule Feed	2942	Guaranteed	12.00	10.00	50.00	2.00	......	The Superior Feed Co., Memphis, Tenn.
		Found.....	13.28	11.02	51.93	2.50	6.48	
Little Jo Dairy Feed..........	2943	Guaranteed	15.00	16.00	44.00	3.00	......	Just Mills, Nashville, Tenn.
		Found.....	14.88	16.36	40.33	1.90	7.95	
Purina Cow Chow Feed........	2944	Guaranteed	12.00	24.00	42.00	4.80	......	Purina Mills, St. Louis, Mo.
		Found.....	12.65	23.09	42.36	4.00	7.13	
XX Good Feed with Molasses..	2945	Guaranteed	15.00	9.00	50.00	1.50	......	Purina Mills, St. Louis, Mo.
		Found.....	13.30	10.20	54.88	2.32	6.15	
Bully Mule Feed.............	2946	Guaranteed	23.00	10.00	45.00	3.00	......	Just Mills, Nashville, Tenn.
		Found	20.38	11.09	46.16	3.74	6.97	
"Golden Gull" Bran...........	2947	Guaranteed	11.50	15.50	55.00	2.00	......	Lawrenceburg Roller Mills, Lawrenceburg, Ind.
		Found	8.25	16.02	52.27	1.87	6.57	
O-U Mule Feed................	2948	Guaranteed	15.00	4.59	52.00	1.24	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	10.32	5.70	52.91	1.11	12.56	
Florida Mule Feed............	2949	Guaranteed	15.00	4.50	51.00	1.25	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	10.16	5.58	52.56	1.12	11.74	
Biles Ready Dairy Rations....	2950	Guaranteed	10.00	24.00	50.00	5.00	......	The Ubiko Milling Co., Cincinnati, Ohio.
		Found	11.67	21.94	44.27	4.05	6.95	

OFFICIAL FEEDING STUFF ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Kamillo Brand Feed..........	2951	Guaranteed	30.00	30.00	22.00	6.00	......	Camilla Cotton Oil & Fert.
		Found	23.25	32.47	22.62	6.77	4.52	Co., Camilla, Ga.
Wheat Mixed Feed...........	2952	Guaranteed	8.55	15.62	58.17	4.05	......	The Crescent Flour Mills,
		Found	7.85	17.34	47.94	4.02	7.55	Denver, Colo.
Invegoco Meal	2953	Guaranteed	22.00	30.00	22.00	7.00	......	International Vegetable Oil
		Found	29.15	28.52	18.93	4.10	8.70	Co., Arlington, Ga.
Pillsbury's Wheat "A" Midd'ngs	2954	Guaranteed	8.00	15.00	55.00	4.00	......	Pillsbury Flour Mills Co.,
		Found	5.20	17.72	56.24	3.65	5.17	Minneapolis, Minn.
Wheat Middlings with Screen'gs	2955	Guaranteed	4.00	17.00	55.00	4.00	......	Geo. P. Plant Milling Co.
		Found	5.50	18.21	55.72	2.77	4.55	St. Louis, Mo.
Oatrashun Stock Feed.........	2956	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Mem-
		Found	14.71	10.38	48.98	2.41	7.35	phis, Tenn.
Dan Patch Special Horse Feed.	2957	Guaranteed	12.50	9.00	55.00	2.25	......	International Sugar Feed
		Found	11.92	10.69	56.23	2.73	7.36	No. 2 Co., Memphis, Tenn.
Alfacorn "Hevi-Oats" Horse	2958	Guaranteed	13.50	9.00	55.00	2.00	......	Alfacorn Milling Co., St.
and Mule Feed.............		Found	11.47	11.14	55.77	2.68	7.14	Louis, Mo.

Pawnee Sweet Feed	2959	Guaranteed	19.00	10.00	50.00	2.00	......	The Corno Mills Co., St. Louis, Mo.
		Found	11.47	10.10	56.50	2.37	5.88	
Krak A Jak Horse Feed	2960	Guaranteed	15.00	10.00	55.00	2.00	......	The Superior Feed Co., Memphis, Tenn.
		Found	14.04	11.02	54.21	1.64	7.15	
Granddaddy Feed	2961	Guaranteed	18.00	9.00	55.00	2.00	......	The Quaker Oats Co., Chicago, Ill.
		Found	15.34	10.50	53.60	3.23	7.63	
Florida Mule Feed	2962	Guaranteed	15.00	4.50	51.00	1.25	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	10.19	5.54	52.23	1.18	12.56	
Florida Mule Feed	2963	Guaranteed	15.00	4.50	51.00	1.25	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	10.19	5.54	52.23	1.18	12.56	
Tennessee Horse & Mule Feed	2964	Guaranteed	11.50	9.30	60.00	2.50	......	Howell Grain & Feed Co., Union City, Tenn.
		Found	12.28	9.56	52.86	1.63	8.56	
Tip Top Molasses Feed	2965	Guaranteed	12.00	9.00	60.00	2.30	......	Howell Grain & Feed Co., Union City, Tenn.
		Found	15.11	8.80	52.57	1.85	6.88	
Purina Pig Chow	2966	Guaranteed	9.00	14.00	55.00	3.20	9.00	Purina Mills, St. Louis, Mo.
		Found	8.64	14.42	53.44	1.71	7.34	
Best Yet Molasses Feed	2967	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon, Ga.
		Found	9.74	10.53	60.39	2.42	4.89	
Dixie Gem Molasses Feed	2968	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon, Ga.
		Found	14.07	9.69	54.49	2.30	5.95	

OFFICIAL FEEDING STUFF ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Cavalry Molasses Feed........	2969	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon, Ga.
		Found	14.40	10.80	50.89	1.54	7.13	
Creamo Brand Mixed Feed....	2970	Guaranteed	25.00	20.00	30.00	4.00	......	Tennessee Fibre Co., Memphis, Tenn.
		Found	19.50	19.92	41.67	4.02	4.77	
O. P. Oil Meal................	2971	Guaranteed	9.50	32.00	......	5.00	......	J. J. Badenoch Co., Chicago, Ill.
		Found	12.12	34.88	30.11	6.52	5.52	
Vaca Dairy Feed............	2972	Guaranteed	29.00	14.50	42.00	2.50	......	Memphis Cotton Hull & Fibre Co., Memphis, Tenn.
		Found	29.92	14.39	37.85	2.52	3.90	
Douglas Corn Gluten Feed.....	2973	Guaranteed	8.00	23.00	52.00	1.00	......	Douglas Company, Cedar Rapids, Iowa.
		Found	6.87	23.92	50.89	2.62	4.15	
Cotton Seed Meal.............	2974	Guaranteed	......	36.05	......	......	......	The Southern Cotton Oi Co., Pensacola, Fla.
		Found	12.30	35.98	31.56	5.82	5.22	
Rye Middlings	2975	Guaranteed	8.00	14.00	60.00	3.00	......	National Feed Co., St. Louis, Mo.
		Found	5.57	16.32	53.65	6.92	4.27	
Digest-All Horse & Mule Feed.	2976	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found	12.29	11.45	49.71	2.37	8.67	

Peter's Bargen Horse Feed....	2977	Guaranteed	15.00	10.00	59.00	2.00	......	M. C. Peters Mill Co.
		Found	10.47	12.15	57.17	2.40	6.71	Omaha, Neb.
Valdo Horse & Mule Feed......	2978	Guaranteed	15.00	10.00	50.00	3.00	......	South Georgia Milling Co.
		Found	15.32	11.06	47.09	2.31	7.30	Valdosta, Ga.
Bay Mule Molasses Feed......	2979	Guaranteed	14.00	8.50	49.00	1.50	......	Milam-Morgan Co., New Or
		Found	15.94	8.06	50.91	2.32	8.16	leans, La.
Beto Stock Feed..............	2980	Guaranteed	15.00	9.00	54.00	2.00	......	Dyersburg Milling Co.,
		Found	13.03	8.16	53.29	.98	8.07	Dyersburg, Tenn.
Butterfat Dairy Feed..........	2981	Guaranteed	15.00	26.00	45.00	5.00	......	Monarch Mills, Chatta-
		Found	18.50	26.06	35.37	3.86	5.85	nooga, Tenn.
Wheat Middlings with Screen'gs	2982	Guaranteed	6.50	17.00	55.00	4.00	......	Geo. P. Plant Milling Co.
		Found	6.07	19.31	55.92	1.65	5.95	St. Louis, Mo.
Magnolia Stock Feed..........	2983	Guaranteed	12.00	14.00	55.00	3.00	......	J. T. Gibbons, New Orleans,
		Found	11.40	16.46	51.70	3.80	6.42	La.
Dixie Poultry Mash............	2984	Guaranteed	5.00	17.00	......	3.00	......	Dixie Mills Co., East St.
		Found....	8.12	19.26	15.93	2.77	7.52	Louis, Ill.
Imperial Brand Peanut Feed...	2985	Guaranteed	23.00	30.00	23.00	8.00	......	Donaldsville Oil Mill, Don-
		Found	17.67	36.86	33.78	6.67	4.27	aldsonville, Ga.
Ubico Union Grains	2986	Guaranteed	10.00	24.00	50.00	5.00	......	The Ubiko Milling Co., Cin-
		Found	11.15	26.54	42.46	4.30	6.40	cinnatti, Ohio.

OFFICIAL FEEDING STUFF ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Rex Special Scratch Feed......	2987	Guaranteed	4.20	10.00	65.00	2.90	......	Rex Mill & Feed Co., Nashville, Tenn.
		Found	2.67	12.06	67.68	3.02	1.85	
Gilt Edge Cotton Seed Meal....	2988	Guaranteed	14.00	36.00	30.00	6.00	......	Empire Cotton Oil Co., Atlanta, Ga.
		Found	8.60	41.24	28.49	5.80	6.02	
Vaca Dairy Feed	2989	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull & Fiber Co., Memphis, Tenn.
		Found	24.82	15.22	45.37	2.20	4.32	
Wheat Middlings	2990	Guaranteed	6.00	15.00	57.00	4.00	......	H. C. Cole Milling Co., Chester, Ill.
		Found	5.00	17.99	55.25	3.17	4.92	
Egmo Scratch Feed	2991	Guaranteed	4.00	10.00	62.00	3.50	......	G. E. Patteson & Co., Memphis, Tenn.
		Found	3.80	11.54	65.01	3.10	2.55	
Pure Wheat Shorts	2992	Guaranteed	5.00	15.00	60.00	5.00	......	The Scott County Milling Co., Sikeston, Mo.
		Found	7.75	17.81	54.62	2.42	5.45	
"Hunter" Horse & Mule Feed ..	2993	Guaranteed	14.00	9.00	60.00	2.00	......	Grain Belt Mills Co., South St. Joseph, Mo.
		Found	9.09	11.63	57.41	3.09	5.94	
Old Trusty Horse & Mule Feed.	2994	Guaranteed	14.00	10.00	62.50	3.00	......	International Sugar Feed Co., Memphis, Tenn.
		Found	10.88	9.46	52.96	2.77	7.09	

Animo Horse & Mule Feed.....	2995	Guaranteed	18.00	9.00	52.00	2.00	......	The Buckeye Cotton Oil Co.,
		Found	17.28	8.80	53.08	2.36	6.23	Memphis, Tenn.
Dan Patch Special Horse Feed..	2996	Guaranteed	12.50	9.00	55.00	2.25	......	International Sugar Feed Co.
		Found	23.76	13.77	38.38	1.68	9.49	Memphis, Tenn.
Purina Feed with Molasses....	2997	Guaranteed	13.00	9.30	53.00	1.70	......	Purina Mills, St. Louis, Mo.
		Found	14.62	9.86	52.95	2.90	6.44	
Mor Grain Horse &Mule Feed..	2998	Guaranteed	15.00	10.00	50.00	2.50	......	The Superior Feed Co., Mem-
		Found	9.43	10.82	57.92	4.27	4.50	phis, Tenn.
Little Ned's Sweet Feed........	2999	Guaranteed	12.00	9.00	57.00	1.50	......	Edgar-Morgan Co., Memphis,
		Found	12.66	9.28	54.74	2.83	5.82	Tenn.
Egmo Scratch Feed	3000	Guaranteed	4.00	10.00	62.00	3.50	......	G. E. Patteson & Co., Mem-
		Found	4.07	11.63	66.06	4.52	2.72	phis, Tenn.
Magnolia Stock Feed..........	3001	Guaranteed	12.00	14.00	55.00	3.00	......	J. T. Gibbons, New Orleans,
		Found	12.10	18.65	50.88	4.87	6.80	La.
Big Value Horse & Mule Feed..	3002	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Mem-
		Found	13.72	10.35	50.09	2.20	8.37	phis, Tenn.
Gray Horse & Mule Feed.......	3003	Guaranteed	15.00	9.00	45.00	2.00	......	The Superior Feed Co., Mem-
		Found	11.34	9.28	56.42	2.20	8.32	phis, Tenn.
Durham Stock Feed	3004	Guaranteed	12.00	14.00	51.00	3.00	......	Atlanta Milling Co., Atlanta,
		Found	7.30	16.46	55.98	4.72	4.92	Ga.

OFFICIAL FEEDING STUFF ANALYSIS, 1919—Continued.

NAME, OR BRAND.	Laboratory Number.	**Analyses.** Guaranteed and Found.	Fiber	Protein.	Starch and Sugar (Nitrogen Free Extract.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER
Ubico Stock Feed	3005	Guaranteed	12.00	10.00	62.00	3.50	......	The Ubiko Milling Co., Cincinnatti, Ohio.
		Found	13.67	10.31	55.23	3.37	5.62	
Old Black Joe Horse and Mule Feed		Guaranteed	20.00	9.00	50.00	1.50	......	Royal Feed & Milling Co., Memphis, Tenn.
	3006	Found	11.73	11.83	55.70	2.51	7.36	

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FOOD AND DRUG SECTION.

R. E. ROSE, State Chemist. SPECIAL FOOD ANALYSES, 1919. A. M. HENRY, **Asst. Chemist.**

Samples Taken by Purchaser Under Section 12, Act Approved June 5, 1911.

BEVERAGES.

No.	LABEL.	CONTENTS	Alcohol (per cent by volume.)	Solids (Per Cent)	BY WHOM SENT
1903	Beverage, Godfrey Wilson, Tallahassee, Fla.	....	49.75	.....	W. F. Banks, Tallahassee.
1904	Beverage No. 1.	....	6.62	.....	W. L. Millinor, Madison.
1905	Beverage No. 2.	....	7.45	.....	W. L. Millinor, Madison.
1906	Beverage No. 3.	....	7.25	.....	W. L. Millinor, Madison.
1907	Beverage, H. P. Smith, Tallahassee, Fla.	....	6.10	.....	W. F. Banks, Tallahassee.

1911	Corn Buck, Tempie Clay, Tallahassee, Fla.	....	6.80	......	W. F. Banks, Tallahassee.
1920	Cider, Nick, Plant City, Fla.	....	6.22	......	A. J. White, Tampa.
1921	Beverage, Nick, Plant City, Fla.	....	6.43	......	A. J. White, Tampa.
1922	First Run, Nick Strasser.	....	5.71	......	A. J. White, Tampa.
1931	Bevo	....	0.35	......	J. C. VanPelt, Pensacola.
1932	Malt-Nutrine, alcohol 1.9%, Anheuser-Busch Brewing Assn., St. Louis, Mo.	....	0.30	......	J. C. VanPelt, Pensacola.
1933	Beverage	....	11.27	......	J. C. VanPelt, Pensacola.
1935	Cher Ko, non-alcoholic, Normandie Co., Norfolk, Va.	....	0.18	......	Consolidated Gro. Co., Tampa.
1936	Hot-Ko, non-alcoholic, Normandie Co., Atlanta, Ga.	....	0.24	......	Consolidated Gro. Co., Tampa.
1937	Kon-Ko, non-alcoholic, Normandie Co., Norfolk, Va.	....	0.26	......	Consolidated Gro. Co., Tampa.
1938	Nec Ko, non-alcoholic, Normandie Co., Norfolk, Va.	....	0.17	......	Consolidated Gro. Co., Tampa.
1944	Tanhauser, Thos. Gerakios, Leesburg...........	....	0.52	......	T. C. Smyth, Tavares.
1945	Beverage, Thos. Gerakios.......................	....	3.88	......	T. C. Smyth, Tavares.
1946	Beverage, W. J. Wright.........................	....	6.63	......	T. C. Smyth, Tavares.

SPECIAL FOOD ANALYSIS, 1919—Continued.

BEVERAGES.—(Continued.)

No.	LABEL	CONTENTS	Alcohol (per cent by volume)	Solids (per cent)	BY WHOM SENT
1947	Beverage, W. J. Wright	....	6.14	......	T. C. Smyth, Tavares.
1948	Beverage, W. J. Wright	....	6.93	......	T. C. Smyth, Tavares.
1949	Beverage, W. J. Wright	....	6.30	......	T. C. Smyth, Tavares.
1950	Beverage, W. J. Wright	....	6.23	......	T. C. Smyth, Tavares.
1951	Beverage, W. J. Wright	....	5.76	......	T. C. Smyth, Tavares.
1952	50 50, it's food and drink to me	....	0.51	......	Capital City Grocery Co., Tallahassee.
1953	Royal, Atlanta Ice & Bottling Co., Atlanta, Ga.	....	0.47	......	D. Isenberg, Miami.
1954	Veribest, Atlanta Ice & Bottling Co., Atlanta, Ga.	....	0.46	......	D. Isenberg, Miami.
1955	Grape Juice, Jasper Rimes, Leesburg	....	4.54	......	T. C. Smyth, Tavares.

1956	Grape Cider, T. Gerakios, Leesburg		4.90		T. C. Smyth, Tavares.
1957	High Life, Diamond Drug Store, Leesburg		0.52		T. C. Smyth, Tavares.
1958	Export, Geo. Burney, Leesburg		0.25		T. C. Smyth, Tavares.
1959	Bevo, T. Gerakios, Leesburg		0.34		T. C. Smyth, Tavares.
1960	Shello, Jasper Rimes, Leesburg		6.12		T. C. Smyth, Tavares.
1961	Beverage No. 1, Zembellas		0.00		L. M. Kibley, Dunnellon.
1962	Beverage No. 2, Zembellas		0.00		L. M. Kibley, Dunnellon.
1963	Beverage No. 3, Zembellas		3.66		L. M. Kibley, Dunnellon.
1964	Beverage No. 1, Scardasis		5.65		L. M. Kibley, Dunnellon.
1965	Beverage No. 2, Scardasis		0.00		L. M. Kibley, Dunnellon.
1966	Beverage No. 1, J. C. Grantham		5.80		L. M. Kibley, Dunnellon.
1967	Moonshine No. 1, Snow & Watson		30.28		J. O. Gates, Bradentown.
1968	Moonshine No. 2, Snow & Watson		37.98		J. O. Gates, Bradentown.
1969	Moonshine No. 3, Snow & Watson		44.32		J. O. Gates, Bradentown.
1970	Moonshine No. 4, Snow & Watson		37.44		J. O. Gates, Bradentown.
1971	Moonshine No. 1, Tom Robertson		38.86		J. O. Gates, Bradentown.

SPECIAL FOOD ANALYSES, 1919—(Continued.)
BEVERAGES—(Continued.)

No.	LABEL.	CONTENTS	Alcohol (per cent by volume)	Solids (per cent)	BY WHOM SENT
1973	Lion Beverage, 11.5 fl. oz., non-intoxicating, The Windisch Mulhauser Brewing Co., Cincinnati, Ohio.	....	0.53	.....	J. H. Harnell, Milton.
1974	Exelso, 12 fl. oz., no alcohol, Hamm Exelso Co., St. Paul, Minn.	....	1.36	.....	J. H. Harnell, Milton.
1975	Dry Regal Cereal Beverage, 12 fl. oz., non-intoxicating, American Beverage Co., New Orleans, La.	....	0.13	.....	J. H. Harnell, Milton.
1976	Dry Regal Cereal Beverage, 12 fl. oz., non-intoxicating, American Beverage Co., New Orleans, La.	....	0.13	.....	J. H. Harnell, Milton.
1977	Schlitz Famo, 12 fl. oz., non-intoxicating, Schlitz, Milwaukee.	....	0.24	.....	J. H. Harnell, Milton.
1978	Fehr's Ambrosia, 10 fl. oz., non-alcoholic, Central Consumers Co., Louisville, Ky.	....	0.04	.....	J. H. Harnell, Milton.

1979	Bevo.		0.24		J. H. Harnell, Milton.
1980	Lion Beverage.		0.87		J. H. Harnell, Milton.
1981	Cider No. 1.		1.36		J. H. Harnell, Milton.
1982	Cider No. 2.		5.04		J. H. Harnell, Milton.
1983	Royal Lemon Extract, 1 fl. oz., alcohol 82%, Davis & Lawrence Co., New York.		81.87		J. H. Harnell, Milton.
1984	Heileman's New Style Lager.		0.19		J. H. Harnell, Milton.
1985	Beverage, State vs. Brown et al.		45.88		W. T. Jones, Ft. Pierce.
1987	Vrginia Dare Wine, less than 1/2% alcohol, 26 ozs. Garrett & Co., New York.		0.28		H. V. Lind, Pensacola.
1988	Wine No. 1		7.70		J. P. Brown, Titusville.
1989	Wine No. 2		7.70		J. P. Brown, Titusville.

SPECIAL FOOD ANALYSES, 1919.—Continued.

MILK.

No.	LABEL	CONTENTS	Butterfat Per Cent)	Solids Not Fat (Per Cent)	BY WHOM SENT
1901	Milk, No. 18.	....	3.80	......	R. C. Jones, Tallahassee.
1902	Milk, No. 84.	....	3.50	......	R. C. Jones, Tallahassee.
1908	Morning Milk.	....	5.00	......	Purity Ice Cream & Dairy Co.
1909	Night Milk.	....	3.50	......	Purity Ice Cream & Dairy Co.
1910	Milk, Johnston's Dairy, St. Augustine, Fla.	....	2.45	4.58	Eugene Masters. St. Augustine.
1913	Milk, Aaron Johnson, St. Augustine, Fla.	....	2.90	5.64	Eugene Masters. St. Augustine.

1914	Milk, One Pint, A. Johnson, St. Augustine, Fla.	1.01 pint.	4.65	8.19	Eugene Masters, St. Augustine.
1915	Milk, One Pint, Gasper Masters, St. Augustine, Fla.	0.98 pint.	4.10	8.47	Eugene Masters St. Augustine.
1916	Milk, One Pint, D. Ostein, St. Augustine, Fla.	0.97 pint.	5.50	8.73	Eugene Masters, St. Augustine.
1918	Milk, One Pint, Mrs. Snellgrove, St. Augustine, Fla.	0.99 pint.	5.00	8.53	Eugene Masters, St. Augustine.
1919	Milk, One Pint, Arthur Usina, St. Augustine, Fla.	0.99 pint.	3.80	8.03	Eugene Masters, St. Augustine.
1923	Milk, One Pint, Ponce de Leon Dairy, St. Augustine, Fla.	1.00 pint.	3.45	9.08	Eugene Masters, St. Augustine.
1924	Milk, One Pint, Mrs. Stokes, St. Augustine, Fla.	1.00 pint.	3.25	7.05	Eugene Masters. St. Augustine.
1925	Milk, One Pint, J. A. Usina, St. Augustine, Fla.	0.98 pint.	5.20	8.17	Eugene Masters, St. Augustine.
1926	Milk, One Pint, Wash Hartley, St. Augustine, Fla.	0.98 pint.	4.80	9.86	Eugene Masters, St. Augustine.
1927	Milk, One Pint, Mrs. O. Manucy, St. Augustine, Fla.	1.00 pint.	3.35	8.85	Eugene Masters, St. Augustine.

SPECIAL FOOD ANALYSES, 1919.—Continued.

MILK

No.	LABEL	CONTENTS	Butterfat (Per cent)	Solids Not Fat (Per cent)	BY WHOM SENT
1934	Human Milk	....	4.40	8.07	Glenn Terrell, Tallahassee.
1940	Milk	....	4.00	......	F. T. Wilson, Tallahassee.
1972	Jersey Milk	....	3.50	5.39	G. C. Cromartie. Tallahassee.

SPECIAL FOOD ANALYSES, 1919—(Continued.)

SUGAR CANE.

No.	LABEL	Extraction (per cent)	Brix (° at 17.5° C.)	Sucrose (per cent)	Invert Sugar (per cent)	Coefficient of Purity	BY WHOM SENT
1990	Red Ribbon Cane	63.50	12.90	......	2.91	......	Fellsmere Farms Co., Fellsmere.
1991	Green Ribbon Cane	70.22	13.60	......	3.60	......	Fellsmere Farms Co., Fellsmere.
1992	D-74 Cane	68.86	13.10	......	2.91	......	Fellsmere Farms Co., Fellsmere.
1993	Red Cuban Cane	69.94	10.20	......	4.70	......	Fellsmere Farms Co., Fellsmere.
1994	Red Bourbon Cane	65.28	12.10	......	3.02	......	Fellsmere Farms Co., Fellsmere.
1995	Red Ribbon Cane	74.94	15.85	14.49	......	91.48	A. M. Henry, Tallahassee.
1996	Otahite Cane	71.75	15.85	13.72	......	86.58	J. W. Gramling, Moore Haven.
1997	Giant Japanese Cane	61.47	17.00	8.94	......	52.59	R. E. Rose, Tallahassee.

SPECIAL FOOD ANALYSES, 1919—(Continued.)

MISCELLANEOUS.

No.	LABEL.	RESULTS.	BY WHOM SENT.
1912	Taylor Avacado	Water (per cent)............. 73.32 Fat (per cent) .... 18.52 Protein (per cent) .... 1.97 Ash (per cent) .... 1.17 Fiber (per cent) .... 1.62 Nitrogen-free extract (per cent) 3.40 Sugar as invert (per cent).... 1.11	J. L. Hickson, Miami.
1930	Over the Top Brand Coffee, Mutual Coffee Co., Montgomery, Ala.	Chickory and cereals absent. A pure coffee.	T. B. Snowden, Blountstown.
1939	Jax Special Brand Distilled Vinegar, caramel colored, 1 pint and 9 ozs.	Acid as acetic (grams per 100 cc) 3.75	Jacksonville Vinegar & Blueing Co., Jacksonville.
1941	Standard Acid	Standard acid—45 grain vinegar.	Jacksonville Vinegar & Bluing Co., Jacksonville.
1942	Seeded Muscat Raisins, J. B. Inderreden Co., Fresno, Cal.	Sand (per cent) 0.31	T. E. Andrews, Tallahassee.
1943	Beverage.	Ordinary poisons are absent.	H. O. Hill, Tallahassee.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY

FOOD AND DRUG SECTION.

R. E. ROSE, State Chemist. SPECIAL DRUG ANALYSES, 1919. A. M. HENRY, Asst. Chemist.

Samples Taken by Purchaser Under Section 12, Act Approved June 5, 1911.

MISCELLANEOUS.

No.	LABEL.	RESULTS.		BY WHOM SENT
1929	Rexall Beef, Wine and Iron, alcohol 19%, United Drug Co., Boston, Mass.	Alcohol (per cent by volume)	20.45	A. Summerlin, Winter Haven.
		Iron (per cent)	0.12	
		Ammonia (per cent)	0.37	
		Protein (per cent)	1.97	

DEPARTMENT OF AGRICULTURE — DIVISION OF CHEMISTRY.

FOOD AND DRUG SECTION.

R. E. ROSE, State Chemist. OFFICIAL FOOD ANALYSES, 1919. A. M. HENRY, Asst. Chemist.

Samples Taken by Inspectors Under Section 12, Act Approved June 5, 1911.

BEVERAGES.

No.	LABEL	CONTENTS	Alcohol (per cent by volume	Solids (per cent)	VIOLATION
2346	Honey Boy Brand Phosphate Compound Cider Cordial, The Honey Boy Phosphate Co., St. Louis, Mo.	....	0.00	17.10	Passed
2347	Schlitz Famo, 12 fluid ounces, Schlitz, Milwaukee.	12.43 fl. oz.	0.24	5.49	Passed.
2348	Bevo The Beverage, non-intoxicating, 10 fl. oz., Anheuser-Busch Brewing Assn., St. Louis.	10.10 fl. oz.	0.25	6.67	Passed.
2350	Grape Juice from Concord Grapes, less than 2% added sugar, one pint, The Welch Grape Juice Co., Westfield, N. Y.	1.18 pint	0.23	......	Passed.
2351	Vinova Grape Juice with sugar added, 1 pint, Renken & Yates Smith, Inc., New York.	0.94 pint	0.13	......	Passed.

2355	Premier Grape Juice, granulated sugar added, ½ pint, Francis H. Leggett & Co., New York.	0.53 pint	0.23	......	Passed.
2356	Clicquot Club Extra Dry Ginger Ale, 15½ fluid ounces, The Clicquot Club Co., Millis, Mass.	1.18 pint	0.17	......	Passed.
2357	Grape Juice, sugar added, 4 ounces, from Concord Grapes, Schule's Pure Grape Juice Co., Inc., Highland, N. Y.	4.13 fl. oz.	0.17	......	Passed.
2358	Concord Grape Juice, 4 fluid ounces, The Bass Islands Vineyards Co., Sandusky, Ohio.	4.00 fl. oz.	0.35	......	Passed.
2360	Coca-Cola, 6.5 fluid ounces, Middle Florida Ice Co., Tallahassee, Fla.	6.62 fl. oz.	0.25	......	Passed.
2361	Ginger Ale, artificial flavor and color, 7 ounces, Middle Florida Ice Co., Tallahassee, Fla.	6.50 fl. oz.	0.22	......	Passed.
2362	Sarsaparilla, artificial flavor and color, 6.5 fluid ounces, Middle Florida Ice Co., Tallahassee, Fla.	6.56 fl. oz.	0.22	......	Passed.
2365	Apple Cider with saccharine and benzoate of soda, National Fruit Products Co., Memphis, Tenn.	....	5.00	4.53	Illegal. Misbranded. No statement of alcohol content. No statement of net contents. Adulterated. A hydro-alcoholic solution of glucose largely substituted for apple cider. Saccharine substituted for sugar.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

BEVERAGES—(Continued.)

No.	LABEL	CONTENTS	Alcohol (per cent by volume	Solids (per cent)	VIOLATION
2372	Nec-Ko, no alcohol, 16 gals., Normandie Co., Atlanta, Ga.	....	0.42	12.66	Passed.
2377	Golden Rod Apple Cider, E. S. Shelby Vinegar Co., Savannah, Ga.	....	5.54	5.50	Illegal. Misbranded. No statement of alcohol content. Incorrect statement of net contents. Adulterated. An imitation substitute for apple cider.
2378	Golden Rod Apple Cider, E. S. Shelby Vinegar Co., Savannah, Ga.	....	5.54	7.13	Illegal. Misbranded. No statement of alcohol content. Incorrect statement of net contents. Adulterated. An imitation substitute for apple cider.

2379	Apple Cider with saccharine and benzoate of soda, National Fruit Products Co., Memphis, Tenn.	....	5.11	4.50	Illegal. Misbranded. No statement of alcohol content. No statement of net contents. Adulterated. A hydro-alcoholic solution of glucose largely substituted for apple cider. Saccharine substituted for sugar.
2380	Apple Cider with saccharine and benzoate of soda, National Fruit Products Co., Memphis, Tenn.	....	5.40	3.41	Illegal. Misbranded. No statement of alcohol content. No statement of net contents. Adulterated. A hydro alcoholic solution of glucose largely substituted for apple cider. Saccharine substituted for sugar.
2381	Peach Punch Hot Beverage, colored flavored preservative, non-alcoholic, The H. W. Fruit Products Co., Savannah, Ga.	....	0.48	......	Passed.
2382	Apricot Cider, non-intoxicating, Chas. Blum Beverage Co., Jacksonville, Fla.	....	6.80	......	Illegal. Misbranded. No statement of alcohol content. No statement of net contents. An intoxicating beverage.
2383	Applebrook Hits the Spot Cider Beverage, Applebrook Beverage Co., Jacksonville, Fla.	....	6.52	......	Illegal. Misbranded. No statement of alcohol content. No statement of net contents.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

BEVERAGES—Continued.

No.	LABEL	CONTENTS	Alcohol (per cent by volume	Solids (per cent)	VIOLATION
2384	Golden Rod Apple Juice Normal Cider 16, 0.1% benzoate of soda and sodium sulphite, E. S. Shelby Vinegar Co., Savannah, Ga.	....	7.65	......	Illegal. Misbranded. No statement of alcohol content. No statement of net contents.
2386	Applebrook Cider Beverage, sweetened with cane syrup, 0.1% benzoate of soda, Applebrook Beverage Co., Jacksonville, Fla.	....	6.57	......	Illegal. Misbranded. No statement of alcohol content. No statement of net contents.
2388	Cider, National Fruit Products Co., Memphis, Tenn.	....	4.68 4.32 4.47 4.54 4.47	10.35 9.17 9.30 9.65 9.52	Illegal. Misbranded. No statement of alcohol content. No statement of net contents. Adulterated. A hydroalcoholic solution of glucose largely substituted for cider.

2389	Fruit Beverage, Richmond Vinegar Co., Richmond, Va.	....	7.04	4.01	Illegal. Misbranded. No statement of alcohol content. No statement of net contents.
2391	Elco Beverage, 12 fl. oz., New Orleans Bottling Co., New Orleans, La.	12.34 fl. oz.	0.41	......	Passed
2392	Reif's Special, 10 fl. oz., Purity Extract & Tonic Co., Chattanooga, Tenn.	11.56 fl. oz.	0.41	......	Passed
2393	Exelso, 12 fl. oz., Hamm. Exelso Co., St. Paul, Minn.	12.34 fl. oz.	0.21	......	Passed
2394	Red Wing Apple Cider, 6 fl. oz., The Red Wing Co., Fredonia, N. Y.	5.92 fl. oz.	0.13	......	Passed
2395	Imitation Blackberry Beverage, The Schuster Co., Cleveland, Ohio.	7.71 fl. oz.	0.15	......	Illegal. Misbranded. No statement of net contents.
2398	Royal Purple Grape Juice, 1 pint, J. Hungerford Smith Grape Juice Co., Rochester, N. Y., Lawton, Mich.	1.00 pint	0.21 0.21	....	Passed
2400	Calwa Grape Juice, 1 pint, Great Western Vineyards Co., San Francisco, Cal.	1.01 pint	0.90 0.38	....	Illegal. Misbranded. No statement of alcohol content.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

EGG SUBSTITUTES.

No.	LABEL	Water (Per Cent)	Fat (Per Cent)	Protein (Per Cent)	Ash (Per Cent)	Carbohydrates (%)	Weight (Ounces)	No. of Eggs Equal to	COLOR	VIOLATION
2302	Egg Flour, Gasco Specialty Co., New York N. Y.	6.95	41.17	43.44	5.87	2.57	.....	.....	Natural	Passed.
2304	Velvet Powdered Whole Egg, The Cabell Co., Baltimore, Md.	6.50	43.52	39.31	4.77	5.90	.....	.....	Natural	Passed.
2306	High-Grade Egg Yolk, Joe Lowe Co., New York, N. Y.	6.12	45.15	38.26	4.32	6.15	.....	.....	Natural	Passed.
2303	Egg White Spar, Gasco Specialty Co., New York, N. Y.	12.15	trace	40.54	2.47	44.84	.....	.....	None.	Illegal. Adulterated. Starch substituted for dried egg white.
2305	Egg-O-White, The Cabell Co., Baltimore Md.	12.87	trace	37.47	2.62	47.07	.....	.....	None.	Illegal. Adulterated. Starch substtiuted for dried egg white.

2301 2340	Aigo, 1.5 oz., 12 eggs, colored, The Egg-O Co., Baltimore, Md.	8.95 11.52	trace trace	18.43 16.50	9.70 9.37	62.92 62.61	2.19 1.76	1 1	Coaltar dye Coaltar dye	Illegal. Adulterated. Colored and mixed to conceal inferiority. Misbranded. False and misleading label.
2343	Mother's Delight, 4 oz. colored, 50 eggs Mother's Delight Manufacturing Co., Chicago, Ill.	11.92	trace	9.01	1.45	77.62	3.81	1	Coaltar dye	Illegal. Adulterated. Colored and mixed to conceal inferiority. Misbranded. False and misleading label.
2341 2344	Newton's Eggno, 3.5 oz. colored, The Newton Tea & Spice Co., Cincinnati, Ohio.	12.05 12.70	2.60 2.85	12.10 12.36	2.97 5.30	70.28 66.79	3.56 3.60	1 1	Coaltar dye Coaltar dye	Illegal. Adulterated. Colored to conceal inferiority. Misbranded. False and misleading label.
2342	Newton's Newto, 3.5 oz., colored, The Newton Manufacturing Co., Cincinnati, Ohio.	9.17	23.87	16.50	2.05	48.41	3.21	3	Coaltar dye	Illegal. Adulterated. Colored to conceal inferiority. Misbranded. False and misleading label.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

MISCELLANEOUS.

No.	LABEL	RESULTS.		VIOLATION
2334	Water from Bayou Bar, Near Apalachicola, Fla., at low tide, Jan. 21.	Salt (per cent)	0.13	Legal.
2339	Old Scout Tomato Pulp. 10 oz., Baltimore Canning Co., Baltimore Md.	Weight (ounces) Weight short (per cent) Mold fragments present.	9.25 7.50	Illegal. Misbranded. Incorrect statement of net contents. Adulterated. Consists in part of a filthy, decomposed and putrid vegetable substance.
2345	We-Li-Ka Vanilla Extract, alcohol 45%, 3/4 fl. oz., Witsell Bros. Mfg. Co., Memphis, Tenn.	Measure (fluid ounces) Alcohol (per cent by volume) Total solids (per cent) Vanillin (per cent)	0.73 43.60 14.15 0.17	Passed. Not a standard extract.
2349	Canned Goods, Hanne Bros., Jacksonville, Fla.	Cans are swells, springers, and leakers. Contents are decomposed and filthy.		Illegal. Adulterated. Consist in whole or in part of filthy, decomposed and putrid substances.
2359	Elkhorn Cheese, 3.75 oz., 4 oz., 7.5 oz., and 8 oz., J. L. Kraft & Bros. Co., Chicago & New York.	Contents (ounces) Contents (ounces) Contents (ounces) Contents (ounces) Contents (ounces)	3.70 3.88 4.98 8.11 8.11	Legal.

2366	We-Li-Ka Vanilla Extract, alcohol 45%, ¾ fl. oz., Witsell Bros. Mfg. Co., Memphis, Tenn.	Measure (fluid ounces) ....0.79 Alcohol (per cent by volume)..35.20 Total solids (per cent)........16.95 Vanillin (per cent) 0.22	Passed.
2367	Temple Garden Allspice, 1½ oz.	Weight (ounces) ....1.06 Weight short (per cent).......29.33	Illegal. Misbranded. Incorrect statement of contents. False and misleading package.
2368	Temple Garden Cinnamon, 1 oz.	Weight (ounces) ....0.53 Weight short (per cent).......47.00	Illegal. Misbranded. Incorrect statement of contents. False and misleading package.
2369	Gauntlet Rubbed Greek Sage, 1 oz. E. R. Durkee & Co., New York, N. Y.	Weight (ounces) ....0.95 Weight short (per cent)........5.00 Carton is less than ½ full.	Illegal. Misbranded. Incorrect statement of contents. False and misleading package.
2370	Pepper, 1½ oz., R. T. French Co., Rochester, N. Y.	Weight (ounces) ....1.52 Can is less than ⅔ full.	Illegal. Misbranded. False and misleading package.
2371	Dove Red Pepper, 1 oz., The Frank Tea & Spice Co., Cincinnatti, O	Weight (ounces) ....0.95 Weight short (per cent) ....5.00 Carton is less than ⅓ full.	Illegal. Misbranded. Incorrect statement of contents. False and misleading package.
2373	Smoked Beef and Pork Sausage.	Preservatives are absent.	Legal.
2374 2375	Jax Special Distilled Vinegar, reduced to legal strength, 1 pint and 9 oz., caramel colored, Jacksonville Vinegar & Blueing Co., Jacksonville, Fla.	Measure 2.02 pints. Acid as acetic (per cent).......3.76 Measure 1 pint and 8. 75 ounces. Acid as acetic (per cent) 3.78	Illegal. False and misleading label. Adulterated. Water substituted in part for vinegar.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

MISCELLANEOUS.

No.	LABEL.	RESULTS.	VIOLATION.
2376	Ideal Distilled Vinegar, reduced to legal strength, 10 oz., caramel colored, Stringfellow Padgett Co.,, Jacksonville, Fla.	Measure (ounces) ....16.65 Acid as acetic (per cent).......3.71	Illegal. Misbranded. False and misleading label. Adulterated. Water substituted in part for vinegar.
2385	Jax Special Distilled Vinegar, reduced to legal strength, 1 pint and 9 fl. oz., caramel colored, Jacksonville Vinegar & Blueing Co., Jacksonville, Fla.	Measure 1 pint and 9.38 ounces. Acid as acetic (per cent) 3.96	Passed.
2387	Anchor Sausage, Morris & Co., Tampa, Fla.	Preservatives are absent.	Legal.
2390	Elk Georgia Corn, added starch and sugar, 1 lb., 3 oz., Brick Winick Co., Atlanta, Ga.	Cans are swells and springers. Contents are slightly decomposed. Weight 1 pound and 2 ounces.	Illegal. Adulterated. Consists in part of a decomposed vegetable substance.
2396	Grapefruit, Standard Growers Exchange, Miami, Fla.	Solids (per cent) ....8.64 Acid as anhydrous citric (%)..1.49 Ratio: Acid to solids ....1 to 5.80 Color (per cent yellow)........60.00	Illegal. Misbranded and adulterated. Immature fruit substituted for mature fruit.

2397	Grapefruit, R. O. Applegate, Princeton, Fla.	Solids (per cent) ....9.13 Acid as anhydrous citric (%)...1.44 Ratio: Acid to solids.......1 to 6.34 Color (per cent yellow).......55.00	Illegal. Misbranded and adulterated Immature fruit substituted for mature fruit.
2399	Dandibake Self-Rising Flour, 6 lbs., Red Mill, Nashville, Tenn.	Weight (pounds) ....5.62 Weight short (per cent) ....6.33 Moisture (per cent) 12.67	Illegal. Misbranded and adulterated. Incorrect statement of net contents.
2401	Flora Patent Bleached Flour, 12 lbs., Ford Flour Co., Nashville, Tenn.	Weight (pounds) ....11.61 Weight short (per cent) ......3.25 Moisture (per cent) 12.50	Illegal. Misbranded and adulterated Incorrect statement of net contents.
2413	Oranges, J. J. Bell, Brooksville, Fla.	Solids (per cent) ....9.81 Acid as anhydrous citric (%)...1.89 Ratio: Acid to solids ......1 to 5.19 Color (per cent yellow) 20.00	Illegal. Misbranded and adulterated. Immature fruit substituted for mature fruit.
2418	Oranges, H. T. Montgomery & Co. Tampa, Fla.	Solids (per cent) ....10.00 Acid as anhydrous citric (%)..1.55 Ratio: Acid to solids.. ..1 to 6.45 Color (per cent yellow) 25.00	Illegal. Misbranded and adulterated. Immature fruit substituted for mature friut.
2419	Real Boston Brown Bread.	Weight (ounces) 4.02	Illegal. Misbranded. No statement of net contents.
2420	.Blue Dot Tomatoes, 10 oz., Winfield Webster & Co., Vienna, Md.	Weight (ounces) ....6.62 Weight short (per cent).......33.80	Illegal. Misbranded. Incorrect statement of net contents.

OFFICIAL FOOD ANALYSES, 1919—(Continued.)

MISCELLANEOUS.—Continued.

No.	LABEL	RESULTS.	VIOLATION.
2421	Flower of the Family Patent Bleached Self-Rising Flour, 6 lbs., Red Mill, Nashville, Tenn.	Weight (pounds) ....5.63 Weight short (per cent) ....6.16 Moisture (per cent) 10.88	Illegal. Misbranded and adulterated. Incorrect statement of net contents.
2422	Merry Widow Bleached Self-Rising Flour, 12 lbs., Ford Flour Co., Nashville, Tenn.	Weight (pounds) ....11.72 Weight short (per cent) ....2.33 Moisture (per cent) 11.50	Illegal. Misbranded and adulterated. Incorrect statement of net contents.

OFFICIAL FOOD ANALYSIS, 1919—Continued.

SHUCKED OYSTERS.

No.	LABEL	MEATS			LIQUOR		COMPOSITE	
		Loss on Boling	Per cent	Total Solids	Per cent	Total Solids	Total Solids	DATE
2307	Bayou Oysters, Apalachicola, shucked immediately and washed ½ minute in fresh water.	48.7	91.47	16.20	8.53	4.10	15.15	Jan. 21.
2320	Bayou Bar Oysters, Apalachicola, kept in shell two days, shucked and washed ½ minute in fresh water.	56.8	89.27	15.15	10.73	3.19	13.87	Jan. 21.
2308	Shucked Oysters, Acme Packing Co., Apalachicola, Fla.	62.7	78.00	10.90	22.00	3.17	9.20	Jan. 22.
2309	Shucked Oysters stored with cracked ice one day, Acme Packing Co., Apalachicola, Fla.	54.3	85.79	12.21	14.21	4.19	11.07	Jan. 22.
2314	Shucked Oysters, West Florida Fish & Oyster Co., Apalachicola, Fla.	64.9	73.78	10.09	26.22	3.12	8.86	Jan. 22.
2321	Shucked Oysters stored with water and ice for one day, Acme Packing Co., Apalachicola, Fla.	48.2	89.45	17.10	10.55	4.84	15.86	Jan. 22.

OFFICIAL FOOD ANALYSIS, 1919—Continued.

SHUCKED OYSTERS.—Continued.

No.	LABEL	MEATS			LIQUOR		COMPOSITE	
		Loss on Boling	Per cent	Total Solids	Per cent	Total Solids	Total Solids	DATE
2335	Shucked Oysters, Crystal Fish & Oyster Co., Crystal River, Fla.	43.3	81.40	21.86	18.60	5.42	18.81	Feb. 12.
2336	Shucked Oysters, Inside Bars, Joe Davis, Crystal River, Fla.	51.4	69.70	22.53	30.30	5.06	17.23	Feb. 12.
2337	Shucked Oysters, Outside Bars, Joe Davis, Crystal River, Fla.	55.9	72.90	20.15	27.10	5.03	16.03	Feb. 12.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FOOD AND DRUG SECTION.

R. E. ROSE, State Chemist. OFFICIAL DRUG ANALYSES, 1919. A. M. HENRY, Asst. Chemist.
Samples Taken by Inspectors Under Section 12, Act Approved June 5, 1911.

MISCELLANEOUS.

No.	LABEL.	RESULTS.	BY WHOM SENT.
2358	Aspironal, alcohol 10%, for colds, coughs, etc., Aspironal Laboratories, Atlanta, Ga.	Total solids (per cent)........23.20 Sodium salicylate (per cent) ...3.53 Alcohol (per cent by volume)..7.32 Ash (per cent) ....2.70 Emedin bearing drugs ......Present Volatile oils (per cent) ....1.00 Sugar as invert (per cent) ....11.00 Analysis indicates Aspironal to be a hydro-alcoholic solution of sugar, sodium salicylate, senna, volatile oils, magnesium sulfate, iron compound, etc.	Illegal. Misbranded. False and fraudulent claims for therapeutic effects.
2352 2354	Parson's Househould Ammonia, Columbia Chemical Works, Brooklyn, N. Y.	Ammonia (per cent by weight).12.71 Ammonia (per cent by weight).11.63	Passed.
2353	Household Ammonia, Hicks Drug Store, Tallahassee, Fla.	Ammonia (per cent by weight)..1.91	Passed.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. E. T. CASLER, Asst. Chemist.

Gasolines Analyzed Before Enforcement of the Law, 1919.
Samples Taken by State Inspectors Under Act Approved June 4th, 1919.
Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	% Distillate Below 105 °C	% Distillate Below 135 °C	% Distillate Below 180 °C	% Recovered	End Point °C	NAME OF MANUFACTURER AND PLACE TAKEN
	Fla. Standard Adopted ..	......	**60**	**20**	**45**	**90**	**95**	**220**	
1	Gasoline.....	......	52	29	57	**86**	96.5	216	The Gulf Refining Co., Tallahassee.
2	Gasoline.....	......	50	21	49.5	**88**	96.5	209	Standard Oil Co., Tallahassee.
3	Gasoline.....	......	47	28.5	59	90	97	209	The Texas Co., Tallahassee.
4	Gasoline.....	56.7	49	31	60	**89.5**	96	207	The Texas Oil Co., Tampa.
5	Gasoline.....	56.6	56	20	50	**87**	96.5	212	Standard Oil Co., Tampa.
6	Gasoline.....	56.6	50	22.5	52	**89**	97	210	Standard Oil Co., Tampa.
7	Gasoline.....	56.7	55	31	58	**87**	96.5	217	Gulf Refining Co., Tampa.

8	Gasoline.....	57.4	45	33	63.5	91	97	203	The Texas Co., Tampa.
9	Gasoline.....	56.9	55	21	50	88	97.5	212	Standard Oil Co., Tampa.
10	Gasoline.....	56.7	55	21	51.5	88.5	97	212	Standard Oil Co., Tampa.
11	Gasoline.....	57.5	46	31	61	91	97	208	The Texas Co., Tampa.
12	Gasoline.....	56.5	52	27	54	85	97	217	Gulf Refining Co., Tampa.
13	Gasoline.....	57.7	45	46	72	92	96	207	Gulf Refining Co., Tallahassee.
14	Gasoline.....	57.5	48	46	72	92.5	96.5	206	Gulf Refining Co., Tallahassee.
15	Gasoline.....	57.5	49	47	73	92.5	96.5	206	Gulf Refining Co., Tallahassee.
16	Gasoline.....	56.7	54	20	50	88	97	209	Standard Oil Co., Jacksonville.
17	Gasoline.....	55.8	54	30	57	86	96	217	Gulf Refining Co., Ocala.
18	Gasoline.....	57.9	50	32	63	90.5	96	209	The Texas Co., Fernandina.
19	Gasoline.....	57.4	53	29	59.5	90	96.5	209	The Texas Co., Ocala.
20	Gasoline.....	57.4	55	22	50	88.5	96	208	Standard Oil Co., Callahan.
21	Gasoline.....	57.3	53	29	59.5	90	96	210	The Texas Co., Jacksonville.
22	Gasoline.....	57.9	53	29.5	59.5	90	96	209	The Texas Co., Palatka.
23	Gasoline.....	55.9	60	27	56.5	87	97	223	Gulf Refining Co., Gainesville.

Gasolines Aanlyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	%Distillate Below 105 °C	%Distillate Below 135 °C	%Distillate Below 180 °C	%Recovered	End Point °C	NAME OF MANUFACTURER AND PLACE TAKEN
24	Gasoline.....	56.8	55	27.5	58	90	96	206	Mixture Standard & Gulf, St. Augustine
25	Gasoline.....	56.7	56	21	50	88.5	96	207	Standard Oil Co., Waldo.
26	Gasoline.....	56.7	57	27	50	87	96	212	Standard Oil Co., Yulee.
27	Gasoline.....	57.2	53	21.5	50	87	96	213	Standard Oil Co., Ocala.
28	Gasoline.....	57.1	53	21.5	52	89	96	208	Standard Oil Co., Fernandina.
29	Gasoline.....	57.0	51	22.5	52	89	97	208	Standard Oil Co., Hastings.
30	Gasoline.....	56.8	52	22	50	87	96	213	Standard Oil Co., Hampton.
31	Gasoline.....	56.8	54	22	53	88	96	210	Standard Oil Co., Gainesville.
32	Gasoline.....	56.8	55	21	50	89	97	207	Standard Oil Co., Lawtey.
33	Gasoline.....	56.6	53	25.5	55	88	96	212	Mixture, Standard & Texas, Jacksonvill
34	Gasoline.....	56.6	55	21	50	88	96	212	Standard Oil Co., Lawtey.

35	Gasoline.....	57.7	50	31	59	90	96.5	208	The Texas Co., Gainesville.
36	Gasoline.....	56.6	52	23	54	89.5	97	205	Standard Oil Co., St. Augustine.
37	Gasoline.....	56.6	52	37	66	91	97	210	Gulf Refining Co., St. Augustine.
38	Gasoline.....	57.0	52	22	50	88.5	96.5	207	Standard Oil Co., Starke.
39	Gasoline.....	57.9	53	32	62	91	96	205	The Texas Co., Hastings.
40	Gasoline.....	59.9	49	40	67	90	95	210	Gulf Refining Co., Fernandina.
41	Gasoline.....	56.8	55	22	50	88	96	212	Standard Oil Co., Palatka.
42	Gasoline.....	56.7	48	27	55	90.5	96	207	Stanadrd Oil Co., Starke.
43	Gasoline.....	59.5	47	45	71	92	96.5	203	Gulf Refining Co., Palatka.
44	Gasoline.....	59.5	48	47	77.5	95	97	195	Gulf Refining Co., Jacksonville.
45	Gasoline.....	56.6	50	32	60	90	96	207	Gulf Refining Co., Hastings.
46	Gasoline.....	57.8	47	49	74	92	96	204	Gulf Refining Co., Jacksonville.
47	Gasoline.....	56.3	53	21	50	87.5	96	210	Standard Oil Co., Tampa.
48	Gasoline.....	56.3	49	31	57.5	87	96.5	216	Gulf Refining Co., Tampa.
49	Gasoline.....	56.8	48	35	62.5	90	96.5	216	Gulf Refining Co., Port Tampa.
50	Gasoline.....	58.2	48	31	60	91	96	204	The Texas Co., Tampa.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 135° C	% Distillate Below 180° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
62	Gasoline.....	57.3	51	23	51	87.5	96	206	Standard Oil Co., Live Oak.
63	Gasoline.....	57.3	49	21	50	87	96.5	207	Standard Oil Co., High Springs.
64	Gasoline.....	57.1	52	22.5	52	88.5	96.5	206	Standard Oil Co., Alachua.
65	Gasoline.....	57.1	55	21	49	88	96	206	Standard Oil Co., Jacksonville.
66	Gasoline.....	56.8	52	23	52	89	97	208	Standard Oil Co., Newberry.
67	Gasoline.....	55.8	52	32	60	87	96.5	219	Gulf Refining Co., Live Oak.
68	Gasoline.....	55.6	54	30	57	86 5	97.5	223	Gulf Refining Co., Brooker.
69	Gasoline.....	57.4	51	29	59	90	97	208	The Texas Co., Jacksonville.
70	Gasoline.....	57.4	47	36	61	88	97	216	Gulf Refining Co., Lake City.
71	Gasoline.....	57.4	50	31	61.5	91.5	97	203	The Texas Co., Newberry.
72	Gasoline.....	57.1	51	20	59	88.5	96	206	Standard Oil Co., Lake Butler.

73	Gasoline.....	58.0	47	31	61	90	96	204	The Texas Co., Lake City.
74	Gasoline.....	59.9	55	43	76	93.5	96	198	Gulf Refining Co., Brooker.
75	Gasoline.....	57.8	50	31	62	90.5	96	202	The Texas Co., Live Oak.
76	Gasoline.....	56.7	55	21	50	88	96	208	Standard Oil Co., Lake City.
77	Gasoline.....	59.7	54	43	76	94	96	184	Gulf Refining Co., Jacksonville.
81	Gasoline.....	60.1	52	41	75	93.5	96	194	Gulf Refining Co., Jacksonville.
82	Gasoline.....	57.4	49	30	59	89	96	208	The Texas Co., Macclenny.
83	Gasoline.....	56.4	56	21	50	87.5	96.5	209	Standard Oil Co., Baldwin.
84	Gasoline.....	57.0	51	21	50	88.5	97	206	Standard Oil Co., Raiford.
85	Gasoline.....	56.8	51	21	51	88	96.5	207	Standard Oil Co., Macclenny.
86	Gasoline.....	59.9	54	42	76	94.5	97	190	Gulf Refining Co., Jacksonville.
87	Gasoline.....	55.7	57	20	49	87.5	97	213	Standard Oil Co., Jacksonville.
88	Gasoline.....	56.6	58	20	49	87.5	97	208	Standard Oil Co., Jacksonville.
89	Gasoline.....	56.6	55	23	53	88	96.5	207	Standard Oil Co., Jacksonville.
90	Gasoline.....	57.6	52	29	60	90.5	97	207	The Texas Co., Jacksonville.
91	Gasoline.....	59.4	53	42	74	94	96	194	Gulf Refining Co., Jacksonville.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 135° C	% Distillate Below 180° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
92	Gasoline.....	59.4	56	42	76.5	95	96.5	189	Gulf Refining Co., Jacksonville.
93	Gasoline.....	57.6	48	31.5	60.5	91	96.5	202	The Texas Co., Jacksonville.
99	Gasoline.....	56.5	52	21	51	89	97	202	Standard Oil Co., Jacksonville.
100	Gasoline.....	56.5	51	21	51	88.5	97	203	Gulf Refining Co., Daytona.
101	Gasoline.....	57.3	50	29	58	90	96.5	208	The Texas Co., Jacksonville.
102	Gasoline.....	56.3	52	25	55	89	97	204	The Texas Co., Ormond.
103	Gasoline.....	56.2	56	23	52	89.5	97	207	Gulf Refining Co., Daytona Beach.
104	Gasoline.....	57.0	54	21	50	87.5	96.5	207	Standard Oil Co., Daytona Beach.
105	Gasoline.....	56.5	53	22	51.5	88	96.5	207	Standard Oil Co., Bunnell.
106	Gasoline.....	56.5	55	20	51	89.5	97	205	Standard Oil Co., Jacksonville.
107	Gasoline.....	57.0	52	24	56	90	96.5	204	Standard Oil Co., DeLand.

108	Gasoline.....	55.9	56	20	50	89	97	204	Standard Oil Co., Jacksonville.
109	Gasoline.....	56.5	52	23	52	89	97	205	Standard Oil Co., Ormond.
110	Gasoline.....	56.2	48	38	63	90	96.5	212	Gulf Refining Co., Jacksonville.
111	Gasoline.....	56.2	48	37.5	63	90	96	211	Gulf Refining Co., Daytona.
112	Gasoline.....	57.0	53	21	51	88	96	207	Standard Oil Co., Daytona.
113	Gasoline.....	57.0	48	31	60	90	96.5	203	The Texas Co., DeLand.
114	Gasoline.....	56.8	51	34	64.5	90	96.5	206	Gulf Refining Co., DeLand.
115	Gasoline.....	56.7	55	22	51	88.5	97	204	Standard Oil Co., DeLand.
116	Gasoline.....	57.7	51	44	72	93	97	203	Gulf Refining Co., New Smyrna.
117	Gasoline.....	56.8	54	21	51	88	97	206	(No manufacturer given)—Tampa.
118	Gasoline.....	55.8	52	30.5	59	88	96.5	213	(No manufacturer given)—Tampa.
119	Gasoline.....	57.1	49	31	60	91	96.5	202	The Texas Co., Bartow.
120	Gasoline.....	57.1	48	30	60	90	97	204	Standard Oil Co., Bowling Green.
121	Gasoline.....	56.0	58	20	52	88	96	207	Standard Oil Co., Wauchula.
122	Gasoline.....	56.0	58	20	51	88.5	97	210	Standard Oil Co., Zolfo.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 135° C	% Distillate Below 180° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
123	Gasoline.....	57.3	49	33	63	90	97	207	The Texas Co., Limestone.
124	Gasoline.....	55.9	52	33	62	91	97	217	Gulf Refining Co., Arcadia.
125	Gasoline.....	56.6	54	23	54	91	97	204	Standard Oil Co., Punta Gorda.
126	Gasoline.....	56.6	55	25	57	91	96.5	200	Standard Oil Co., Punta Gorda.
127	Gasoline.....	56.6	55	22	53	89	97	205	Standard Oil Co., Ft. Myers.
128	Gasoline.....	56.1	53	31.5	60	89	96.5	217	Gulf Refining Co., Ft. Myers.
129	Gasoline.....	56.1	55	23	52	88	96	207	Standard Oil Co., Ft. Myers.
130	Gasoline.....	57.1	53	32	61	90	96.5	209	The Texas Co., Arcadia.
131	Gasoline.....	56.0	56	21	52	89	96.5	207	Standard Oil Co., Arcadia.
132	Gasoline.....	56.0	57	21	52	90	96.5	207	Standard Oil Co., Arcadia.
133	Gasoline.....	56.0	55	22	52	89	97	206	Standard Oil Co., Ft. Meade.

134	Gasoline.....	56.6	56	21	50	88	97	209	Standard Oil Co., Ft. Meade.
135	Gasoline.....	56.6	55	23	51.5	88.5	97	205	Standard Oil Co., Ft. Meade.
136	Gasoline.....	57.3	55	34	68	92	96.5	209	The Texas Co., Pensacola.
137	Gasoline.....	58.0	52	36	67	91	96	209	Gulf Refining Co., Pensacola.
138	Gasoline.....	57.7	53	26	56	90	97	208	Standard Oil Co., Cantonement.
139	Gasoline.....	57.6	52	26	55	89	97	209	Standard Oil Co., Laurel Hill.
140	Gasoline.....	58.1	53	25	57	90	96.5	207	Standard Oil Co. (No location given)
141	Gasoline.....	55.7	56	31	62	90	97	208	Gulf Refining Co. (No location given)
142	Gasoline.....	57.1	54	28	62	91	97	210	The Texas Co. (No location given)
143	Gasoline.....	56.1	50	38	67	92	96.5	204	Gulf Refining Co. (No location given)
144	Gasoline.....	56.1	55	31	63	91	96.5	209	Gulf Refining Co. (No location given)
145	Gasoline.....	56.2	55	33	65	92	96.5	205	Gulf Refining Co., Molino.
146	Gasoline.....	58.0	55	34	65	91	97	210	The Texas Co. (No location given)
147	Gasoline.....	57.9	57	38	73	92	96	211	The Texas Co., Century.
148	Gasoline.....	57.0	55	37	66	92	97	207	Gulf Refining Co., Pensacola.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 135° C	% Distillate Below 180° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
149	Gasoline.....	57.8	50	29	56	89	96.5	209	Standard Oil Co., Milligan.
150	Gasoline.....	57.7	52	36	67	91	96.5	211	Gulf Refining Co. (No location given)
151	Gasoline.....	56.6	59	31	64	91	97	206	Gulf Refining Co., Cottage Hill.
152	Gasoline.....	58.0	53	37	68	91	97	212	The Texas Co., Pensacola.
153	Gasoline.....	58.0	50	27	56	89	97	208	Standard Oil Co., Baker.
154	Gasoline.....	57.5	58	34	67	91	97	212	The Texas Co., Pensacola.
155	Gasoline.....	56.1	55	27	58	88	97	210	The Texas Co. (No location given)
156	Gasoline.....	56.6	57	32	64	91	97	204	Gulf Refining Co , Pensacola.
157	Gasoline.....	58.4	53	27	60	90.5	96.5	200	Standard Oil Co., Pensacola.
158	Gasoline.....	57.8	53	26	56	90	97	204	Standard Oil Co., Pensacola.
159	Gasoline.....	58.4	54	25	57	90	97	205	Standard Oil Co., Pensacola.

160	Gasoline.....	57.3	55	28	60	90	97	208	Gulf Refining Co., Gonzales.
166	Gasoline.....	56.5	59	20	50	88	96	206	Standard Oil Co., Jacksonville.
167	Gasoline.....	56.6	53	23	52	90	97	203	Standard Oil Co., Bunnell.
168	Gasoline.....	58.8	53	34	69	93	97	198	Gulf Refining Co., Jacksonville.
169	Gasoline.....	56.8	55	21	52	89	97	204	Standard Oil Co., Bunnell.
170	Gasoline.....	58.0	47	32	62	91	96	202	The Texas Co., Jacksonville.
171	Gasoline.....	58.0	50	28	60	91.5	96.5	197	Standard Oil Co., Jacksonville.
172	Gasoline.....	58.0	55	27	58	91	97	198	Standard Oil Co., Jacksonville.
173	Gasoline.....	58.0	50	31	61	90.5	96.5	201	The Texas Co., Jacksonville.
174	Gasoline.....	57.5	54	26	55	90	97	206	The Texas Co., Jacksonville.
175	Gasoline.....	58.5	53	26	57	91	97	200	Standard Oil Co., Jacksonville.
176	Gasoline.....	60.5	52	48	80	95.5	97	186	Gulf Refining Co., Jacksonville.
177	Gasoline.....	60.0	54	43	77	95	97	192	Gulf Refining Co., Jacksonville.
178	Gasoline.....	54.9	74	15	48	88.5	97.5	205	Gulf Refining Co., Otter Creek.
179	Gasoline.....	57.8	53	25	56	91	97	203	Standard Oil Co., Moneston.
180	Gasoline.....	56.8	58	22	53	89	96	204	Standard Oil Co., Ocala.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 135° C	% Distillate Below 180° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
181	Gasoline.....	55.9	50	40	68	90	96.5	209	Gulf Refining Co., Ocala.
182	Gasoline.....	57.8	55	25	54	90	97	203	Standard Oil Co., Bronson.
183	Gasoline.....	56.8	56	32	60	88	97	215	Gulf Refining Co., Cedar Key.
184	Gasoline.....	56.8	56	22	52	90	97	204	Standard Oil Co., New Smyrna.
185	Gasoline.....	57.2	54	24	55	90	97	205	Standard Oil Co., Kissimmee.
186	Gasoline.....	57.2	56	23	54	90	97	207	Standard Oil Co., Kissimmee.
187	Gasoline.....	57.2	55	25	55	89	97	211	Standard Oil Co., Loughman.
188	Gasoline.....	57.2	57	20	51	90	97	206	Standard Oil Co., Haines City.
189	Gasoline.....	57.0	48	36	64	90	97	214	Gulf Refining Co., Winter Haven.
190	Gasoline.....	54.1	80	9	43.5	87	79	209	Standard Oil Co., Lake Wales.
191	Gasoline.....	57.1	49	32	62	91	97	206	The Texas Co., Lakeland.

192	Gasoline.....	55.0	54	20	49	85.5	97	229	Standard Oil Co., Lakeland.
193	Gasoline.....	57.4	45	33	61	91	97	205	The Texas Co., Lakeland.
194	Gasoline.....	55.9	49	35	64	91	97	214	Gulf Refining Co., Plant City.
195	Gasoline.....	56.7	39	45	69	90	96.5	213	Gulf Refining Co., Pt. Tampa.
196	Gasoline.....	56.7	39	43	65	90	97	213	Gulf Refining Co., Pt. Tampa.
197	Gasoline.....	56.7	47	38	63.5	88.5	97	222	Gulf Refining Co., Tampa.
198	Gasoline.....	57.7	45	42	67.5	91	97	209	Gulf Refining Co., Tampa.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
	Fla. Standard Adopted Nov. 7, 1919	......	Not Above 60	20	50	90	95	Not Above 225	
199	Gasoline.....	57.7	53	26	60	92	97	212	Standard Oil Co., Lakewood.
200	Gasoline.....	58.7	46	28	66	95	97	198	Standard Oil Co , Freeport.
201	Gasoline.....	56.7	53	36	71	94	97	205	Gulf Refining Co., Munson.
202	Gasoline.....	58.7	50	27	62	94	96	200	Standard Oil Co., Deerland.
203	Gasoline.....	58.7	49	30	65	94	97	203	Standard Oil Co., Milton.
204	Gasoline.....	58.1	48	28	65	94.5	97	201	Standard Oil Co., Milton.
205	Gasoline.....	58.1	48	25	61	94	96.5	204	Standard Oil Co., Milton.
206	Gasoline.....	58.1	50	25	63	94	97	206	Standard Oil Co., Glendale.
207	Gasoline.....	59.1	50	26	63	93.5	97	208	Standard Oil Co., DeFuniak.

208	Gasoline.....	59.1	49	29	66	95	97	206	Standard Oil Co., DeFuniak.
209	Gasoline.....	59.1	52	31.5	68	95	97.5	204	Standard Oil Co., Crestview.
210	Gasoline.....	58.4	50	26	62	94	97	206	Standard Oil Co., Bagdad.
211	Gasoline.....	58.4	50	28	65	95	97.5	202	Standard Oil Co., Pace.
212	Gasoline.....	59.1	46	29	67	94	96	203	Standard Oil Co., DeFuniak.
213	Gasoline.....	59.1	50	29	64	94.5	96.5	199	Standard Oil Co., DeFuniak.
214	Gasoline.....	58.7	50	28	65	94	97	207	Standard Oil Co., Jay.
215	Gasoline.....	58.6	52	25	63	94	97	201	Standard Oil Co., Jay.
216	Gasoline.....	58.6	50	28	64	94	96.5	200	Standard Oil Co. (No location given)
217	Gasoline.....	58.6	51	25	62	94	97	204	Standard Oil Co., Milton.
218	Gasoline.....	57.0	58	32	67	94	97	207	The Texas Co., Crestview.
219	Gasoline.....	58.6	54	29	61	94	97	204	Standard Oil Co., Milton.
220	Gasoline.....	59.4	46	31	65	94	97	208	Standard Oil Co., DeFuniak.
221	Gasoline.....	58.2	49	27	64	93	97	208	Standard Oil Co., Munson.
222	Gasoline.....	58.7	50	26	63	93.5	96.5	206	Standard Oil Co., Crestview.
223	Gasoline.....	58.2	51	27	64	94.5	97	203	Standard Oil Co., Glendale.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
224	Gasoline.....	58.7	52	25	63.5	94	96	202	Standard Oil Co., Argyle.
225	Gasoline.....	58.7	50	29	69	96	97	196	Standard Oil Co., Freeport.
226	Gasoline.....	57.9	49	26	53	93.5	96.5	203	Standard Oil Co., Bagdad.
227	Gasoline.....	58.4	52	24	66	93.5	96	201	Standard Oil Co., Darlington.
228	Gasoline.....	58.4	50	27	64	94	97	203	Standard Oil Co., Pace.
229	Gasoline.....	55.9	52	33	68	92.5	97	216	Gulf Refining Co., Orlando.
230	Gasoline.....	57.8	52	26	61	94	97	208	Standard Oil Co., Eustis.
231	Gasoline.....	56.8	57	20	60	92.5	97	207	Standard Oil Co., Winter Park.
232	Gasoline.....	55.8	48	42	70	93	97	206	Gulf Refining Co., Sanford.
233	Gasoline.....	56.3	52	32	67	93	97	206	Gulf Refining Co., Orlando.
241	Gasoline.....	58.0	46	26	62	93	97	206	Standard Oil Co., Sanford.

242	Gasoline.....	57.7	50	28.5	63.5	93	97	209	The Texas Co., Leesburg.
243	Gasoline.....	57.0	50	23	58	94	97	215	Standard Oil Co., Williston.
244	Gasoline.....	57.0	55	20	59	93	97	211	Standard Oil Co., Eustis.
245	Gasoline.....	57.0	50	25	60	94	97.5	201	Standard Oil Co., Montbrook.
246	Gasoline.....	56.5	57	18.5	54	92	97	208	Standard Oil Co., Mt. Dora.
247	Gasoline.....	57.0	53	22.5	58	93.5	97	206	Standard Oil Co., Cedar Key.
248	Gasoline.....	56.0	50	35	69	92	97	214	Gulf Refining Co., Winter Park.
249	Gasoline.....	56.4	52	32	66	93	97	214	Gulf Refining Co., Leesburg.
250	Gasoline.....	58.7	46	35	66	94	96.5	202	The Texas Co., Sanford.
251	Gasoline.....	57.2	56	22	57	92.5	97	205	Standard Oil Co., Williston.
252	Gasoline.....	56.4	58	23	58	94	96.5	205	Standard Oil Co., Leesburg.
262	Gasoline.....	57.7	54	24	60.5	93	97	208	Standard Oil Co., Jacksonville.
263	Gasoline.....	58.7	52	24	60	92.5	96.5	209	The Texas Co., Jacksonville.
264	Gasoline.....	60.1	52	46	82	96	97.5	196	Gulf Refining Co., Jacksonville.
265	Gasoline.....	57.7	48	33	66	94	97	205	The Texas Co., Orlando.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
266	Gasoline.....	59.7	54	43	82	96	97	194	Gulf Refining Co., Jacksonville.
267	Gasoline.....	56.7	55	24	60	93	97	208	Standard Oil Co., Pine Castle.
268	Gasoline.....	56.6	50	24	59	93	97	209	Standard Oil Co., Tavares.
269	Gasoline.....	57.6	54	22	59	93	96.5	208	Standard Oil Co., Jacksonville.
270	Gasoline.....	57.6	47	31	65	95	97	212	The Texas Co., Winter Garden.
271	Gasoline.....	56.4	54	21	57	93	98	208	Standard Oil Co., Orlando.
272	Gasoline.....	56.4	53	23	60	93	97.5	208	Standard Oil Co., Winter Garden.
273	Gasoline.....	57.6	53	27	66	95	97	211	The Texas Co., Jacksonville.
274	Gasoline.....	57.9	54	26	62	93.5	97	208	Standard Oil Co., Hawthorne.
275	Gasoline.....	58.1	53	23	60	91	97	209	Standard Oil Co., Hawthorne.
282	Gasoline.....	57.3	49	27	64	93	96.5	201	Standard Oil Co., Jacksonville.

283	Gasoline.....	58.1	51	29	67	94	97	200	The Texas Co., Jacksonville.
284	Gasoline.....	57.1	53	23	58	93	97	205	Standard Oil Co., Dunellon.
285	Gasoline.....	59.1	53	45	83	96.5	97.5	190	Gulf Refining Co., Jacksonville.
286	Gasoline.....	58.1	54	25	62	94.5	97	203	Standard Oil Co., Jacksonville.
287	Gasoline.....	57.9	55	23	61	93.5	97	204	Standard Oil Co., Jacksonville.
288	Gasoline.....	57.7	53	26	66	93	96.5	209	Standard Oil Co., Jacksonville.
289	Gasoline.....	56.8	58	19	55	92	97	202	Standard Oil Co., Jacksonville.
290	Gasoline.....	56.8	53	25	61	93.5	97	205	Standard Oil Co., Inverness.
291	Gasoline.....	57.1	58	19	57	93	97	205	Standard Oil Co., Brooksville.
292	Gasoline.....	56.6	52	23.5	59	92	96.5	209	Standard Oil Co. ,Inverness.
293	Gasoline.....	56.6	57	20	55	92	96.5	210	Standard Oil Co., Bushnell.
294	Gasoline.....	55.4	61	18.5	52	90	97	212	Standard Oil Co., Brooksville.
295	Gasoline.....	56.8	56	20	56	92.5	97	209	Standard Oil Co., Dunellon.
296	Gasoline.....	56.4	57	23	61	93	97	206	Standard Oil Co., Brooksville.
297	Gasoline.....	56.2	58	22	56	92	97	212	Standard Oil Co., Bushnell.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
298	Gasoline.....	56.2	56	23	62	92.5	97	206	Standard Oil Co., Bushnell.
299	Gasoline.....	56.2	62	17.5	50.5	92	97	212	Standard Oil Co., St. Catherine.
300	Gasoline.....	58.1	51	26	63	93	96	206	Standard Oil Co., Tallahassee.
301	Gasoline.....	58.1	53	25	62	93.5	96	200	Standard Oil Co., Tallahassee.
302	Gasoline.....	58.1	50	31	68	94	97	204	Gulf Refining Co., Tallahassee.
303	Gasoline.....	58.1	51	30	67	94	96.5	202	The Texas Co., St. Marks.
304	Gasoline.....	56.9	49	35	70	95	96.5	201	Gulf Refining Co., Woodville.
305	Gasoline.....	57.9	53	27	65	94	96	199	Gulf Refining Co., Tallahassee.
306	Gasoline.....	57.9	50	32	71	95	96.5	198	The Texas Co., Tallahassee.
307	Gasoline.....	57.9	55	23	61	94	97	201	Standard Oil Co., Wakulla.
308	Gasoline.....	57.8	52	31	68	94.5	96.5	198	Gulf Refining Co., Tallahassee.

309	Gasoline.....	56.7	58	20	56	93	97	207	Standard Oil Co., Crawfordville.
310	Gasoline.....	57.7	53	31	71	95	97	200	Gulf Refining Co., Tallahassee.
311	Gasoline.....	56.7	59	20	56	93	97	203	Standard Oil Co., Crawfordville.
312	Gasoline.....	58.2	50	26	62	92	97	207	Standard Oil Co., Gretna.
313	Gasoline.....	58.2	54	25	58	92	97	211	Standard Oil Co., Chattahoochee.
314	Gasoline.....	58.2	50	27	64	94	97.5	208	Standard Oil Co., River Junction.
315	Gasoline.....	58.2	53	23	61	93	97	207	Standard Oil Co. ,Mt. Pleasant.
316	Gasoline.....	58.0	49	33	70	94	97	206	Gulf Refining Co., Havana.
317	Gasoline.....	58.0	55	23	61	93	97	209	Standard Oil Co., Havana.
318	Gasoline.....	58.0	52	28	63	94	97	207	Standard Oil Co., Quincy.
319	Gasoline.....	58.0	52	22	62	93.5	97	205	Standard Oil Co., Chattahoochee.
320	Gasoline.....	58.1	57	25	62	93	97	207	Standard Oil Co. (No location given)
321	Gasoline.....	58.1	57	24	63	93.5	96.5	206	Standard Oil Co., Havana.
322	Gasoline.....	58.1	54	26	62	93	97	209	Standard Oil Co., Quincy.
323	Gasoline.....	58.1	55	24	61	94	97	207	Standard Oil Co., Quincy.

Gasolines Analyzed Before Enforcement of the Law, 1919.—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
324	Gasoline.....	58.0	53	26	62	93	97	207	Standard Oil Co., Quincy.
325	Gasoline.....	58.0	55	24	60	94	97	207	Standard Oil Co., Chattahoochee.
326	Gasoline.....	58.0	55	26	67	93	97	208	Standard Oil Co., Chattahoochee.
327	Gasoline.....	58.0	52	28	68	94	97	202	Gulf Refining Co., Havana.
328	Gasoline.....	58.0	55	26	64	94	97	204	Standard Oil Co., Quincy.
334	Gasoline.....	58.0	41	43	72	93	96.5	211	Gulf Refining Co., Tampa.
335	Gasoline.....	58.0	42	44	72.5	93	96.5	210	Gulf Refining Co., Tampa.
336	Gasoline.....	58.0	43	43	72.5	93	97	216	Gulf Refining Co., Tampa.
337	Gasoline.....	58.6	55	32	67	91	96	216	The Texas Co., Tampa.
338	Gasoline.....	58.6	54	35	70	93	97	210	The Texas Co., Tampa.
339	Gasoline.....	58.6	55	24	59.5	92.5	97	213	Standard Oil Co., Tampa.

340	Gasoline.....	58.6	54	27	63	93	97	213	Standard Oil Co., Tampa.
341	Gasoline.....	58.6	51	30	66	91.5	97	225	Gulf Refining Co., Port Tampa.
342	Gasoline.....	58.6	48	35	70	92	97	225	Gulf Refining Co., Port Tampa.
343	Gasoline.....	58.6	51	31	67	92	97	221	Gulf Refining Co., Port Tampa.
344	Gasoline.....	58.6	50	32	67	92	97	223	Gulf Refining Co., Port Tampa.

DEPARTMENT OF AGRICULTURE — DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. E. T. CASLER, Asst. Chemist.

Official Gasoline Analyses, 1919.

Samples Taken by State Inspectors Under Act Approved June 4th, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted ..	......	**Not Above 60**	**20**	**50**	**90**	**95**	**Not Above 225**	
1	Gasoline.....	57.8	52	24	60	93	97.5	212	Standard Oil Co., Tampa.
2	Gasoline.....	58.2	50	32	68	93	97.5	215	Texas Oil Co., Tampa.
3	Gasoline.....	58.0	51	33	68	93	97	213	Texas Oil Co., Tampa.
4	Gasoline.....	57.9	47	34	67	92	97	221	Gulf Refining Co., Tampa.
5	Gasoline.....	58.4	53	25	61	93.5	97.5	212	Standard Oil Co., Tampa.
6	Gasoline.....	58.8	54	24	61	93.5	98	212	Standard Oil Co., Tampa.

7	Gasoline.....	58.4	54	34	69.5	94	98	215	Texas Oil Co., Tampa.
8	Gasoline.....	58.6	53	24.5	60	93	97.5	214	Standard Oil Co., Tampa.
9	Gasoline.....	58.0	51	32.5	68	93.5	97.5	214	Texas Oil Co., Tampa.
10	Gasoline.....	57.5	46	36	68.5	92.5	97	220	Gulf Refining Co., Tampa.
11	Gasoline.....	58.0	51	25.5	61.5	94	98	211	Standard Oil Co., Tampa.
12	Gasoline.....	57.5	45	36	67.5	92.5	97	222	Gulf Refining Co., Tampa.
13	Gasoline.....	58.0	53	35	70	94.5	98	213	Texas Oil Co., Tampa.
14	Gasoline.....	58.0	55	25	61	93.5	98	212	Standard Oil Co., Tampa.
15	Gasoline.....	58.0	43	36.5	68.5	92.5	97	214	Gulf Refining Co., Tampa.
16	Gasoline.....	58.2	53	33.5	70	93	97	216	Texas Oil Co., Tampa.
17	Gasoline.....	58.2	48	36	68	92.5	97.5	220	Gulf Refining Co., Tampa.
18	Gasoline.....	58.0	46	34	69	93.5	97.5	209	Texas Oil Co., Tampa.
19	Gasoline.....	58.0	44	35	68	92	97.5	222	Gulf Refining Co., Tampa.
20	Gasoline.....	58.0	52	25	60.5	93.5	98	211	Standard Oil Co., Tampa.
21	Gasoline.....	58.0	47	36	68	93	97.5	220	Gulf Refining Co., Tampa.
22	Gasoline.....	58.0	50	26	65	93.5	98	210	Standard Oil Co., Jacksonville.

OFFICIAL GASOLINE ANALYSES, 1919—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	Below 105° C % Distillate	Below 140° C % Distillate	Below 190° C % Distillate	% Recovered	End Point ° C	NAME OF MANUFACTURER AND PLACE TAKEN
23	Gasoline.....	58.5	52	36	70.5	95	97.5	209	Texas Co., Jacksonville.
24	Gasoline.....	58.3	51	25	62	93	97.5	209	Standard Oil Co., Jacksonville.
25	Gasoline.....	58.4	54	25	61	93.5	97.5	208	Standard Oil Co., Jacksonville.
26	Gasoline.....	58.4	53	33.5	71	94	97.5	213	Texas Co., Jacksonville.
27	Gasoline.....	58.3	54	24	59	93	97	208	Standard Oil Co., Fernandina.
28	Gasoline.....	58.4	50	34	71	94	97	212	Texas Co., Fernandina.

DEPARTMENT OF AGRICULTURE
DIVISION OF CHEMISTRY

OIL SECTION.

R. E. ROSE, State Chemist. E. T. CASLER, Asst. Chemist.

Kerosenes Analyzed Before Enforcement of the Law, 1919.
Samples Taken by State Inspectors Under Act
Approved June 4th, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	Not Below 100° "Tag" Closed Tester	6	....	
51	Kerosene	118	1.8	43.6	Standard Oil Co., Tampa.
52	Kerosene	110	1.8	44.4	Gulf Refining Co., Tampa.
53	Kerosene	145	2.5	41.5	The Texas Co., Tampa.
54	Kerosene	118	2.8	43.4	Standard Oil Co., Alachua.
55	Kerosene	113	1.5	43.4	Standard Oil Co., Lake City.
56	Kerosene	116	1.6	43.3	Standard Oil Co., Newberry.
57	Kerosene	116	1.3	43.3	Standard Oil Co., Live Oak.
58	Kerosene	109	1.7	43.3	Gulf Refining Co., Live Oak.
59	Kerosene	147	1.5	41.3	The Texas Co., Live Oak.
60	Kerosene	117	1.5	43.3	Standard Oil Co., High Springs.
61	Kerosene	114	1.4	43.3	Standard Oil Co., Lake Butler.
78	Kerosene	117	1.7	44.2	Standard Oil Co., Raiford.
79	Kerosene	106	1.6	44.2	Standard Oil Co., Baldwin.
80	Kerosene	113	1.6	44.2	Standard Oil Co., Macclenny.
94	Kerosene	105	1.5	44.0	Standard Oil Co., Bunnell.

Kerosenes Analyzed Before Enforcement of the Law, 1919—Cont.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	NAME OF MANUFACTURER AND PLACE TAKEN
95	Kerosene	141	1.7	41.1	The Texas Co., Daytona.
96	Kerosene	115	1.4	44.0	Stand. Oil Co., Daytona Beach.
97	Kerosene	111	1.5	44.0	Standard Oil Co., New Smyrna.
98	Kerosene	117	1.7	43.8	Gulf Refining Co., New Smyrna.
161	Kerosene	114	1.5	44.1	Standard Oil Co., Montbrook.
162	Kerosene	117	1.5	43.6	Standard Oil Co., Bronson.
163	Kerosene	122	1.5	43.4	Gulf Refining Co., Cedar Key.
164	Kerosene	112	1.5	44.1	Standard Oil Co., Williston.
165	Kerosene	114	1.7	44.1	Standard Oil Co., Moniston.
234	Kerosene	112	1.5	43.9	Standard Oil Co., Williston.
235	Kerosene	115	1.7	43.9	Standard Oil Co., Ocala.
236	Kerosene	116	1.5	43.9	Standard Oil Co., Cedar Key.
237	Kerosene	115	1.5	43.9	Standard Oil Co., Eustis.
238	Kerosene	100	1.7	44.4	Gulf Refining Co., Orlando.
239	Kerosene	129	1.6	42.0	Standard Oil Co., Leesburg.
240	Kerosene	100	1.5	44.1	Gulf Refining Co., Leesburg.
253	Kerosene	111	1.4	44.0	Standard Oil Co., Mt. Dora.
254	Kerosene	116	1.5	44.0	Standard Oil Co., Pine Castle.
255	Kerosene	116	1.4	43.8	Standard Oil Co., Sanford.
256	Kerosene	116	1.4	44.0	Stand. Oil Co., Winter Garden.
257	Kerosene	132	2.00	41.3	The Texas Co., Orlando.
258	Kerosene	100	2.00	44.0	Gulf Refining Co., Tavares.

Kerosenes Analyzed Before Enforcement of the Law, 1919—Cont.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	NAME OF MANUFACTURER AND PLACE TAKEN
259	Kerosene	114	1.3	44.0	Standard Oil Co., Tavares.
260	Kerosene	120	1.5	43.5	Gulf Refining Co., Sanford.
261	Kerosene	114	1.7	43.7	Standard Oil Co., Hawthorne.
276	Kerosene	114	1.4	44.3	Standard Oil Co., Dunellon.
277	Kerosene	114	1.6	43.7	Standard Oil Co., Brooksville.
278	Kerosene	118	2.00	43.7	Standard Oil Co., St. Catherine.
279	Kerosene	114	1.8	43.7	Standard Oil Co., Inverness.
280	Kerosene	112	1.8	44.2	Standard Oil Co., Inverness.
281	Kerosene	114	1.8	43.5	Standard Oil Co., Jacksonville.
329	Kerosene	107	1.4	44.6	Gulf Refining Co., Tampa.
330	Kerosene	134	1.5	42.0	The Texas Co., Tampa.
331	Kerosene	133	1.4	42.0	The Texas Co., Tampa.
332	Kerosene	112	1.6	44.4	Standard Oil Co., Tampa.
333	Kerosene	112	1.5	44.4	Standard Oil Co., Tampa.

DEPARTMENT OF AGRICULTURE
DIVISION OF CHEMISTRY
OIL SECTION.

R. E. ROSE, State Cemist. E. T. CASLER, Asst. Chemist.

Official Kerosene Analyses, 1919.
Samples Taken by State Inspectors Under Act
Approved June 4th, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	Not Below 100° "Tag" Closed Tester	6	....	
1	Kerosene	108	2.3	44.7	Gulf Refining Co., Tampa.
2	Kerosene	130	2.5	42.0	Texas Oil Co., Tampa.
3	Kerosene	112	1.6	44.0	Standard Oil Co., Tampa.
4	Kerosene	103	1.5	45.0	Gulf Refining Co., Tampa.
5	Kerosene	112	1.6	44.0	Standard Oil Co., Tampa.
6	Kerosene	138	2.7	42.0	Texas Co., Jacksonville.
7	Kerosene	114	1.4	44.0	Standard Oil Co., Fernandina.
8	Kerosene	120	2.2	42.0	Texas Co., Fernandina.

MISCELLANEOUS ANALYSES AND EXAMINATIONS, 1919.

WATER SAMPLES.

2570—Water from Pump, Micanopy. Sediment is a mixture of clay (Aluminum Silicate) (Kaolin) and organic matter, evidently a fungus. It may or may not be injurious.

2580—Spring Water, from L. E. Wade, Orange Park.
Total dissolved solids (parts per million) .. 131
Composed principally of lime and organic matter . A moderately mineralized water. (A desirable drinking water.)

2583—Well water from J. O. Moody, Tallahassee.
Total dissolved solids (parts per million) .. 125
Composed principally of lime and organic matter. A moderately mineralized water.

2589—Well water, from 75-100 ft. wells. Miami city supply; Lilburn R. Railey, Miami, Fla.
Total dissolved solids (parts per million) .. 1600
NaCl (Salt) (parts per million) 1200
$Ca(HCO_3)_2$ (Lime) (parts per million) 339
Organic matter (parts per million) 89
A very highly mineralized water.

2608—Well water, from C. M. Daly, New Smyrna.
Total dissolved solids (parts per million) .. 195
Composed principally of lime, organic matter, and salt. A moderately mineralized water.

PHOSPHATES.

2576—Pebble Phosphate, from L. M. Hughes, Limestone.
2577—Rock Phosphate, from W. P. Jennings, Jennings.

LIMESTONES AND MARLS.

2572—Marl, from H. H. Welsh, Alliance.

Calcium Carbonate (Carbonate of Lime)	50%
Clay	40%
Sand	10%

2574—Soft Limestone, from A. L. Brannan, Live Oak.

Calcium Carbonate	99%
Sand, etc.	1%

2578—Limestone, Calcium Carbonate, from W. A. Lofton, Miami.

Limestone, partially burned. A very pure specimen of limestone.

Carbonate of Lime	98%

2586—"Calcite," Crystaline Limestone, from A. C. Thomas, Cottondale.

Calcite, Crystaline Limestone.

2587—Marl, from W. E. Ladd, Brooksville.

Carbonate of Lime, clay and humus.

Carbonate of Lime	50%

2588—Impure Limestone Pebbles, from J. W. Howell, Geneva, Alabama.

Limestone Pebbles, mixed with clay, (concretions) contains about 40% of Carbonate of Lime, and is colored with Oxide of Iron.

2591—Impure Limestone, from P. Loogman, Ruskin.

Carbonate of Lime	80%
Sand, water and organic matter	20%

No phosphate.

2598—Water-worn limestone, from C. L. Urmston, Dania.

Carbonate of Lime	80%
Sand, clay and water	20%

2600—"Calcite," from Horace G. Ridaught, Johnson.

Crystallized limestone. Calcium Carbonate.

2603—Sandy Limestone, from W. E. Bolles, Oldsmar.

Moisture (water-free basis)	0.25%
Insoluble matter (sand, etc.)	54.00%
Calcium Carbonate (by difference)	46.00%

2604—Sandy Limestone, from Walter Parker, DeFuniak Springs.
Sandy Limestone. This would make a good building stone.

2605—Limestone, from J. W. Howell, Geneva, Alabama.
Soft Limestone.

2606—Impure Sandy Marl, from Skinner Bros. Realty Co., Jacksonville.

Carbonate of Lime.	40%
Sand, clay and water	60%

2607—Oolitic Limestone, from J. R. Fraser, Ramrod, Ky.
"Subsurface Rock."
"Tidal Rock."
"Trap Rock."
All are high grade limestone, 99% $CaCO_3$ (Carbonate of Lime).
No phosphate.

2611—Marl, from Mrs. C. L. Hyatt, Kissimmee.

Sand	40%
Clay	35%
Lime	25%
Phosphate	Trace

SANDSTONES, SANDS, AND CLAYS.

2568—Black Peaty Clay, from Frank Owen, Palatka.

	Original (wet) sample	On dry basis.
Moisture	92.95%	2.87%
Ash (clay)	2.33%	32.15%
NH_3 (Ammonia)	0.21%	2.95%

A muck with an unusual quantity of fine clay. Aluminum silicate.

2579—Black Clay, from V. E. Chaspia, Palatka. Black clay, colored with organic matter. It contains material resembling asphalt or petroleum, probably particles from a road with asphalt or oil surface.

2582—Argillaceous Sandstone, from J. A. Hawkins, Williston. Argillaceous sandstone, with clay inclusions. Of no commercial value.

2594—Sandy (Impure) Micaceous Kaolin, clay, an impure Silicate of Aluminum, Emil T. Schmidt, Cook. No. 1 is the overburden and has more sand than Kaolin in it. No. 2 is Kaolin with a small amount of sand and mica flakes.

2597—Sand, with Mica, H. L. Grace, Graceville. Sand, with mica specks.

2599—Calcareous Clay, from Stephen Lee, Pensacola. unsuited for brick making.

2610—Brown Sandstone Rock from O'Brien, from Ben Chaires, Tallahassee. Sandstone colored brown by iron. Rock contains no phosphate.

MISCELLANEOUS.

2569—Stibnite, Antimony Sulfide, from A. A. Meyer, Apalachicola.
Stibnite—antimony sulfide—a mineral of accidental occourance in coal.

2571—Impure Quartz Crystals, from Leona Young, Jacksonville.
Quartz crystals with inclusions of bronze mica (plogopite).
No value.

2573—Fossil Peat, from J. A. A. Boyd, Brooksville.
Fossil Peat contaminated with large percentage of very fine sand.
Of no commercial value.

2575—Impure Sulphur, from G. E. Vincent, Sanford.

Water	9.10%
Sulphur	48.65%
Non-volatile matter (Gypsum, Talc, etc.)	42.25%

2581—Potassium Sulphate, from E. E. Eepes, DeLand.
Potassium Sulfate. Sample too small for Potash determination.

2584—Lead Arsenate, sample from 600 lbs. from Angus Gillis, Tallahassee.
Arsenic as Arsenic Oxid (As_2O_5) 9.78%
(Equivalent to lead arsenate ($Pb_3As_2O_8$) 20.13%)

2585—Atlas Cattle Dip, from opened can diluted by rain, from G. H. Lamb, Tallahassee.
Dipping solution made according to directions gives 0.115% As_2O_3, while a new can gives 0.232% As_2O_3 on dilution.

2590—Spanish Moss Refuse, from W. G. Tilghman, Palatka.

Potash	0.17%
Ammonia	1.15%

2592—Lead Arsenate 96%, Inert ingredients 4%, Total Arsenic as Metallic Arsenic 20%—31% Arsenic Oxid. The Grasseli Chemical Co., Cleveland, Ohio; from John E. Perkins, Tallahassee.

Lead Arsenic	20.37%
Arsenic Oxid	9.88%

2593—Boiler Scale, from Umatilla Ice and Storage Co., Umatilla.
Boiler Scale composed principally of ($CaCO_3$) lime, with some organic matter.

2595—Pyrites, from R. M. Burt, DeLeon Springs.
Pyrites. Iron Sulfid.

2601—Magnetite, from Horace G. Ridaught, Johnson.
Magnetite, Magnetic iron oxide.

2602—Galena, from Horace G. Ridaught, Johnson.
Galena, Lead Sulfid.

2609—Well Drillings, No. 1 and No. 2, from J. D. Phillips, Clarksville.
No. 1 contains less clay and sand than No. 2. Both No. 1, and No. 2 are limestone well drillings and contain no trace of petroleum.

2612—Muck A. & B., from Fellsmere Farms, Fellsmere.

	Top	Subsoil
Water	57.00%	91.00%
Ash (Dry basis 15.1 & 5.6)	6.50%	0.50%

A sour undecomposed muck.

2613—Muck, Sec. 24, T 52 S, R 39E, from Miami Canal.

Water	90.00%
Ash (dry basis 12.00%)	1.20%

Not acid to litmus.

2614—Horse Intestines, from Geo. Weems, Lacoochee.
Examined for poison with negative results.

EXPENDITURES CHEMICAL DIVISION, 1919.

(Audited and approved by the State Chemist, and Commissioner of Agriculture.)

(*Exclusive of Salaries Fixed by Law.*)

INCIDENTALS PURE FOOD DEPARTMENT.

Mar. 7—J. Frank Smith	$10.70
Mar. 7—Marcus Endel, Samples, etc.	4.29
Mar. 11—R. E. Rose, Petty cash, Sub. Scientific American	8.50
Mar. 31—A. M. Henry	1.95
Apr. 3—A. C. Harllee	4.84
Apr. 4—R. E. Rose, petty cash	7.25
Apr. 4—Notary Fees	3.00
Apr. 4—Western Union Telegraph Co.	2.08
May 3—J. Frank Smith	5.41
May 5—Yaeger-Rhodes Hdw. Co.	4.85
May 5—City Gas	11.73
May 5—H. R. Kaufman	2.85
May 5—Telephone	3.00
May 5—H. R. Sauls	1.25
May 5—J. F. Hill	.90
May 5—W. L. Marshall	2.55
May 5—Ice	2.60
May 5—Freight and Dray	2.04
May 5—American Express Co.	4.82
May 16—Eimer & Amend 4/14/19	19.50
May 19—Notary Fees	6.75
May 31—A. M. Henry, samples	4.35
May 31—Petty cash	2.50
June 2—A. C. Harllee, Incidentals	3.42
June 2—Marcus Endel, Samples and Incidentals	4.12
June 3—Telephone	3.00
June 3—Western Union Telegraph Co.	0.60
June 3—City Gas	8.93
June 3—R. H. Sauls, Plumbing	1.25
June 3—Ice	2.60
June 3—American Express Co.	3.41
June 3—D. R. Cox Furniture Co.	107.50
June 18—Walker & Black, Towels	4.80
June 21—Eimer & Amend, electric muffle furnace	130.00

June 27—Notary Fees	3.75
June 27—Eimer & Amend	79.70
Total July 1, 1919	$470.79
July 2—A. C. Harllee	1.16
July 2—R. E. Rose, petty cash	2.21
July 2—Yaeger-Rhodes Hdw. Co.	3.54
July 2—Ice	2.60
July 2—H. R. Kaufman	3.00
July 2—American Express Co.	15.25
July 2—Telephone	4.40
July 2—City Water	10.00
July 2—City Gas	10.68
July 3—Pichard Bros. Lumber	1.91
July 3—Labor Building Steps	3.00
July 3—Western Union Telegraph Co.	2.48
July 5—B. E. Hardacre Co., Premium Alcohol Bond	5.00
July 5—J. Frank Smith, incidentals	8.25
July 5—Notary fees (44 depositions at 25c)	11.00
July 7—Marcus Endel, samples	3.55
July 18—Ice—Coupon Book 3418	12.00
Aug. 2—A. C. Harllee	1.98
Aug. 7—Philadelphia Book Co.	36.45
Aug. 12—Eimer & Amend 8/8/19	82.84
Aug. 19—R. E. Rose, petty cash	4.40
Aug. 19—H. &. W. B. Drew Co.	3.59
Aug. 30—Eimer & Amend	16.04
Aug. 30—W. L. Marshall	1.25
Aug. 30—Ice	7.20
Aug. 30—A. M. Henry, petty cash	1.66
Aug. 30—Notary fees, July and August	8.00
Sept. 3—American Express Co.	9.56
Sept. 3—Telephone	4.00
Sept. 3—City Gas	9.80
Sept. 3—Electricity	1.87
Sept. 3—J. F. Hill	1.50
Sept. 3—H. R. Kaufman	3.00
Sept. 3—Yaeger-Rhodes Hdw. Co.	1.80
Sept. 5—Freight and Drayage	2.04
Sept. 5—Western Union Telegraph Co.	1.93
Sept. 8—Eimer & Amend	8.76

Sept. 13—Electric Switch	3.00
Sept. 19—Electric Switch	5.55
Sept. 19—Holmes Drug Co. (107 lbs. Caustic Soda)	15.00
Sept. 24—Ice	7.20
Sept. 25—Express (C. O. D. 100 cartons)	13.97
Oct. 1—R. E. Rose, petty cash	7.50
Oct. 1—Yaeger-Rhodes Hdw. Co.	2.95
Oct. 1—City Gas	8.58
Oct. 1—City Water	12.44
Oct. 1—City Electricity	8.47
Oct. 1—Telephone	4.00
Oct. 1—H. R. Kaufman	11.35
Oct. 1—American Express Co.	6.30
Oct. 2—A. C. Harllee	3.44
Oct. 3—Holmes Drug Store	1.90
Oct. 3—H. R. Sauls	19.75
Oct. 6—Eimer & Amend	50.75
Oct. 6—Eimer & Amend	6.00
Oct. 6—J. Frank Smith, samples	18.30
Oct. 16—Eimer & Amend	4.84
Nov. 5—A. M. Henry, samples	1.55
Dec. 23—J. Frank Smith, samples	25.00
Dec. 23—J. Mullady (October bills)	5.90
Dec. 24—A. C. Harllee (October bills)	7.45
Dec. 24—Ice	5.40
Dec. 26—A. C. Harllee (November bills)	7.10
Total, July 1 to Dec. 31	$571.39
Total, July 1	470.79
Total for year	$1,042.18

CHEMICALS, APPARATUS AND INCIDENTALS STATE LABORATORY.

Jan. 4—Telephone	$ 3.00
Jan. 4—J. F. Hill	1.75
Jan. 4—City Gas	.50
Jan. 4—H. R. Sauls, plumbing	8.05
Jan. 4—Ice	2.40
Jan. 4—Western Union Telegraph Co.	.50
Jan. 4—City Water	14.42
Jan. 6—H. R. Kaufman	5.10
Jan. 15—R. E. Rose, petty cash	2.50
Jan. 15—W. C. Dixon, freight and dray	2.50
Jan. 15—American Can Co., sample cans	14.79
Jan. 17—Subs. Journal Pharmaceutical Assn.	8.00
Jan. 17—Subs. Journal Chemical Society	15.00
Jan. 17—Notary fees	3.75
Jan. 27—Eimer & Amend	39.75
Jan. 31—Eimer & Amend	15.00
Feb. 4—H. R. Kaufman	3.25
Feb. 4—H. & W. B. Drew Co.	3.58
Feb. 4—Telephone	3.00
Feb. 4—Yaeger-Rhodes Hdw. Co.	1.35
Feb. 4—City Gas	4.73
Feb. 4—American Express Co. (January)	4.13
Feb. 4—Western Union Telegraph Co.	.82
Feb. 4—A. M. Henry, samples	2.05
Feb. 4—Marcus Endel, samples	3.51
Feb. 6—American Express Co. (December)	5.07
Feb. 11—Notary Fees	4.50
Feb. 21—Eimer & Amend 2/13/19	4.81
Mar. 3—Freight and Dray	4.05
Mar. 5—American Railway Express Co.	1.12
Mar. 5—Western Union Telegraph Co.	5.03
Mar. 5—Yaeger-Rhodes Hdw. Co.	2.85
Mar. 5—W. L. Marshall	3.50
Mar. 5—H. R. Kaufman	3.30
Mar. 5—City Gas	7.70
Mar. 5—Telephone	3.00
Mar. 5—Ice	2.40
Mar. 6—R. E. Rose, petty cash	4.31
Mar. 7—Notary fees	8.00
Mar. 17—Eimer & Amend 3/12/19	32.27

Mar. 17—H. R. Sauls, Plumbing	5.70
Mar. 31—Ed. H. Hopkins, electric fixtures	34.00
Mar. 31—Philadelphia Book Co.	3.15
Apr. 3—H. R. Kaufman	1.60
Apr. 3—Chas. Williams	1.25
Apr. 3—Telephone	3.00
Apr. 3—Yaeger-Rhodes Hdw. Co.	5.63
Apr. 3—City water	19.70
Apr. 3—City Gas	12.25
Apr. 3—Ice	2.60
Apr. 3—American Express Co.	9.60
Apr. 3—Eimer & Amend	0.94
Apr. 3—Eimer & Amend	12.90
Apr. 4—D. R. Cox Furniture Co.	8.50
Apr. 24—Eimer & Amend	1.70
Apr. 29—Eimer & Amend, Rhotanium Ware	143.48
May 2—Eimer & Amend, Platinum Ware	149.44
June 3—Eimer & Amend	21.35
June 3—H. R. Kaufman	8.50
June 3—Yaeger-Rhodes Hdw. Co.	3.85
Total, July 1, 1919	$701.48

July 5—Eimer & Amend	0.64
July 30—John Wiley & Sons, Publishers	4.00
July 30—R. E. Rose, petty cash	2.10
Aug. 2—Dalton Adding Machine, No. 54036	245.00
Aug. 4—Yaeger-Rhodes Hdw. Co.	2.15
Aug. 4—H. R. Sauls	5.40
Aug. 4—H. R. Kaufman	2.25
Aug. 4—Telephone	4.00
Aug. 4—Ice	1.50
Aug. 4—City Gas	14.00
Aug. 4—American Express Co.	2.02
Aug. 27—Ed. H. Hopkins, electrical work	274.84
Aug. 29—Ed. H. Hopkins, balance bill rendered	193.76
Nov. 4—H. R. Sauls	5.00
Nov. 4—City Gas	9.68
Nov. 4—City electricity	13.65
Nov. 4—Subs. Louisiana Planter	3.00
Nov. 4—Yaeger-Rhodes Hdw. Co.	18.80
Nov. 4—Telephone	4.00
Nov. 4—H. R. Kaufman	4.65

Nov. 4—Eimer & Amend	0.89
Nov. 4—Ice	14.40
Nov. 4—R. E. Rose, petty cash	3.60
Dec. 5—Subs. American Food Journal	2.50
Dec. 5—Yaeger-Rhodes Hdw. Co.	1.90
Dec. 5—Subs. Paint, Oil & Drug Reporter	5.00
Dec. 5—H. R. Kaufman	1.85
Dec. 5—Telephone	4.00
Dec. 5—American Express Co.	8.64
Dec. 5—Subs. New York Packer	2.00
Dec. 5—City Electricity	16.20
Dec. 5—City Gas	7.65
Dec. 5—Western Union Telegraph Co.	1.16
Dec. 5—R. E. Rose, petty cash	2.50
Dec. 17—D. R. Cox Furniture Co., book cases	140.00
Dec. 17—R. E. Rose, petty cash	7.00
Dec. 27—Eimer & Amend	185.53
Total July 1 to Dec. 31, 1919	$1,215.26
Total July 1, 1919	701.48
Total, 1919	$1,916.74

POSTAGE, STATE CHEMIST.

Mar. 19—800 5c stamps	$ 40.00
Apr. 7—1000 2c envelopes	20.00
Total to July 1, 1919	$ 60.00
Dec. 29—2000 5c stamps	$100.00
Dec. 29—2000 2c stamps	40.00
Dec. 29—2000 1c stamps	20.00
Dec. 29—1000 2c stamped envelopes	22.56
Total, July 1 to Dec. 31, 1919	$182.56
Total to July 1, 1919	60.00
Total for 1919	$242.56

TRAVELING EXPENSES, STATE CHEMIST AND ASSISTANTS.

Jan. 14—A. M. Henry	$ 32.85
Jan. 29—R. E. Rose, 3-F drive	32.67
Jan. 29—A. M. Henry (shrimp & oyster insp.)	14.40
Feb. 17—A. M. Henry, Jax. Crystal River, etc.	21.80
Apr. 14—A. M. Henry, Apalachicola	15.25
Mar. 24—R. E. Rose, DeFuniak Springs	3.79
Mar. 24—R. E. Rose, 1000 m. scrip book No. 4316.	30.00
Mar. 31—R. E. Rose, to Jax. S. E. S. F. & D. O.	27.38
Mar. 31—A. M. Henry, to Jax. S. E. S. F. & D. O.	30.20
June 27—A. M. Henry	40.89
Total to July 1, 1919	$249.23
July 10—A. M. Henry, R. R. Scrip book No. 6251.	30.00
Aug. 18—R. E. Rose, to N. Y. and return, A. A. D. F. & D. O.	56.80
Aug. 25—R. E. Rose, 1000 mi. Scrip book No. 6530	30.00
Sept. 23—R. E. Rose, convention A.A.D.F.&D.O.	130.87
Oct. 17—R. E. Rose, Jax., Phila. & Gainesville	122.61
Nov. 4—R. E. Rose, R. R. Scrip Book No. 6741	30.00
Nov. 13—A. M. Henry, 2 Scrip Books	60.00
Nov. 26—R. E. Rose, Jax., Miami and Lake Okeechobee	62.55
Nov. 28—A. M. Henry, Washington, D. C. to A. O. A. C. & F. C. O.	58.65
Dec. 8—R. E. Rose, Scrip Book No. 7018	30.00
Dec. 15—R. E. Rose, to Orlando, Jax. and return.	18.38
Dec. 29—A. M. Henry, 2 Scrip Books, Nos. 7135 and 7136	60.00
Dec. 29—E. P. Greene, 1 Scrip Book No. 7138	30.00
Dec. 29—F. T. Wilson, 1 Scrip Book, No. 7137	30.00
Dec. 29—R. E. Rose, 3 Scrip Books, Nos. 7139, 7140 and 7141	90.00
Total, July 1 to Dec. 31, 1919	839.86
Total to July 1, 1919	249.23
Total, 1919	$1,089.09

TRAVELING EXPENSES, INSPECTORS.

Feb. 6—A. C. Harllee	$ 22.38
Feb. 6—J. Frank Smith	30.08
Feb. 14—Marcus Endel	39.40
Feb. 14—Marcus Endel	5.53
Mar. 3—J. Frank Smith	64.55
Mar. 11—Marcus Endel	157.35
Mar. 31—J. Frank Smith	95.91
Apr. 2—A. C. Harllee	65.91
Apr. 2—Marcus Endel	41.53
May 1—J. Frank Smith	101.05
May 2—A. C. Harllee	62.32
June 2—A. C. Harllee	40.78
June 3—J. Frank Smith	100.79
June 4—Marcus Endel	95.94
Total, July 1, 1919	$923.52
July 1—J. Frank Smith	147.51
July 2—A. C. Harllee	51.39
July 7—Marcus Endel	132.75
Aug. 1—J. Frank Smith	147.31
Aug. 2—A. C. Harllee	43.63
Oct. 2—A. C. Harllee (Sept. Acct.)	37.61
Total July 1 to Dec. 31, 1919	560.20
Total, July 1, 1919	923.52
Total, 1919	$1,483.71

CITRUS FRUIT EXPENSES.

Oct. 3—Walter Gibson (salary)	$150.00
Oct. 3—Walter Gibson traveling expenses	134.98
Oct. 1—J. T. Lewis, (salary)	150.00
Aug. 30—Walker & Black	5.45
Aug. 30—Charles Williams	0.75
Aug. 30—O. C. Van Brunt	1.50
Sept. 3—W. L. Marshall, 5 apparatus boxes	10.00
Oct. 1—American Express Co.	3.90
Oct. 6—Western Union Telegraph Co.	8.83
Nov. 4—Telegrams	8.20
Nov. 4—American Express Co.	2.36
Nov. 5—A. M. Henry, samples	9.85
Total, 1919	$485.87

CASH RECEIVED AND PAID STATE TREASURER.

Nov. 19—Hydrometer-thermometer to W. C. Gibson	$4.00	
Nov. 19—Check, W. C. Gibson		$4.00
Dec. 9—Postage, personal use	4.90	
Dec. 9—Check, R. E. Rose		4.90
	$8.90	$8.90

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Volume 30 Number 2

FLORIDA QUARTERLY BULLETIN

OF THE

AGRICULTURAL DEPARTMENT

APRIL 1, 1920

W. A. McRAE

COMMISSIONER OF AGRICULTURE

TALLAHASSEE FLA.

PART I—[illegible]ar Article. Pink Boll Worm. Federal and State [illegible]tine Action, Etc. Tobacco. Good Roads.
PART II [illegible]ts.
PART III [illegible]lations, Analyses.

Univ. of Illinois, Library.
URBANA, ILL.

Entered January 31, 1903, at [illegible] [illegible]orida, as second-class matter under Act of Con[illegible] June, 1900.

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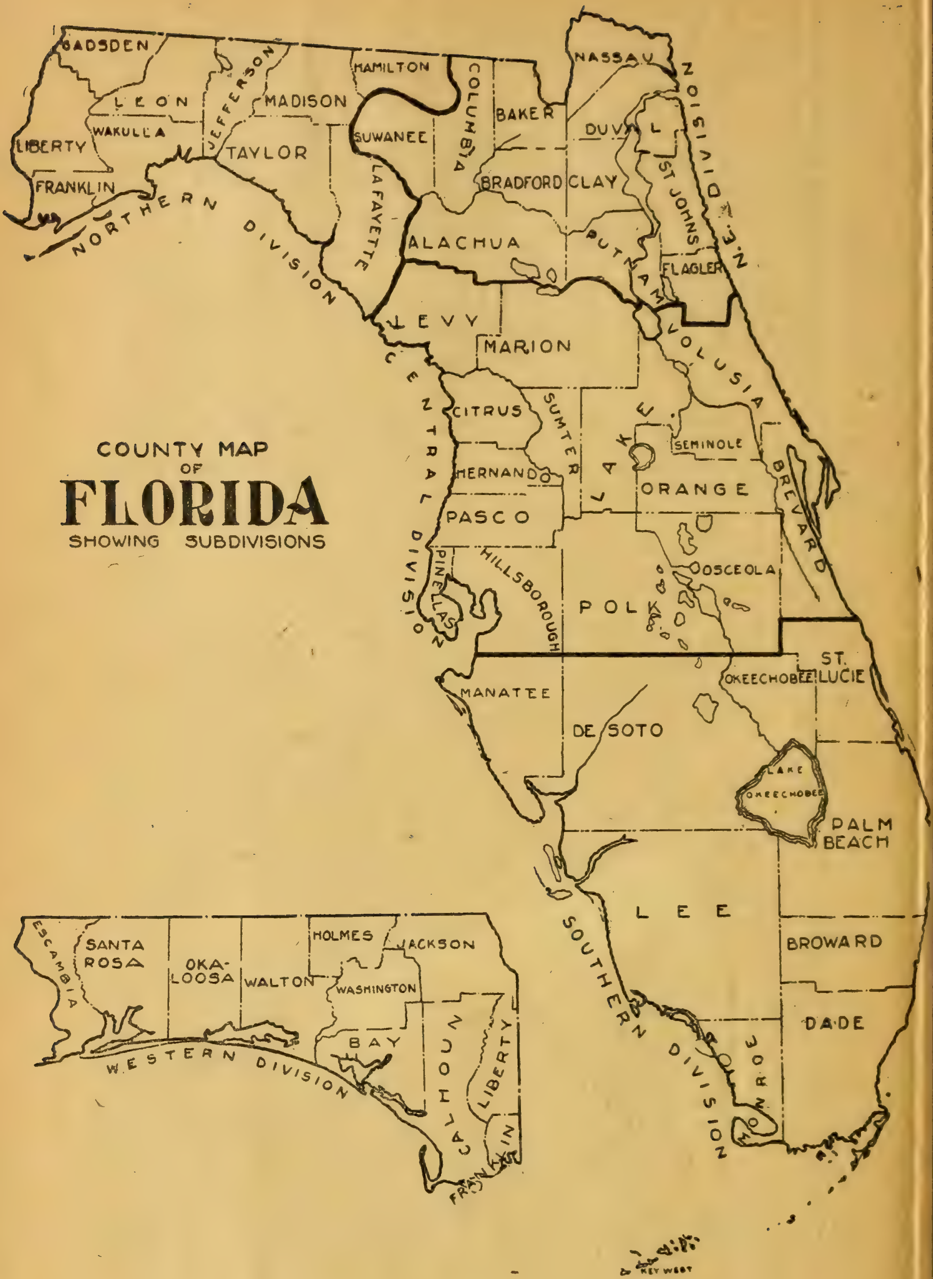

COUNTY MAP
OF
FLORIDA
SHOWING SUBDIVISIONS

PART I

Sugar Article.
Pink Boll Worm.
Federal and State Quarantine Action, Etc.
Tobacco.
Good Roads.

HISTORY OF SUGAR CANE IN FLORIDA

Fairbanks, in his interesting history of Florida, says that upon the acquisition of East Florida by the British, in 1763, Gen. James Grant was appointed Governor, with St. Augustine as the Capital. Governor Grant at once set about to improve the condition of the people of the province, who, under Spanish rule, had been reduced to great straits in the neglect of agriculture and the decay of commerce under the proscriptive trade laws.

Governor Grant exhibited great zeal in disseminating the advantages possessed by the province for emigrants, particularly its healthfulness, as shown by the longevity of its citizens, and in setting forth the productiveness of its soil.

In 1767, Sir William Duncan and Dr. Andrew Turnbull, two Scotchmen, influenced by Governor Grant's representations, organized a colony of 1,500 souls, drawn from Minorca, the Greek Islands, Italy and Smyrna, and landed them at the site of New Smyrna, which was so named at its founding.

The projectors of this scheme had expended $166,000 upon it at the time of the landing of the colonists, and afterwards, besides more money, "much labor was expended in buildings, opening canals (in part through solid rock), ditches and various other improvements, the remains of which still exist."

The colonists came to East Florida under indenture, by which they were to give a certain number of years of labor to the projectors of the colony for bringing them out, a common practice in those days and not entirely in abeyance today, though against the letter and spirit of the emigration laws of the country.

The object of the projectors of the New Smyrna colony was to engage principally in the cultivation of indigo and sugar cane and the manufacture of their products for shipment to the markets of Europe, where they then commanded very high prices, and this marks the first instance of manufacturing sugar from the juice of the cane on a commercial basis within the present bounds of the United States.

Dr. Stubbs, in his history of sugar cane in Louisiana, credits Etienne DeBore with first inaugurating the manufacture of sugar on a large scale in Louisiana, in 1794, the centennial of which event was appropriately celebrated in New Orleans in 1894.

Sugar from cane had been produced in Louisiana by Antonio Mendez, in a small way, in 1791, twenty-four years after Dr. Turnbull had commenced its manufacture in Florida; but Mendez's operations were on a small scale until DeBore entered upon its manufacture to an extent "large enough to influence the future of Louisiana."

Dr. Turnbull's colony seemed born to trouble. It had scarcely been well settled before dissensions arose between master and servant as to the character and term of service to be rendered, culminating, in 1769, in open revolt of the colonists against the articles of indenture and the harsh treatment of authority of those over them.

The ringleaders in the revolt, as claimed, were carried to St. Augustine, and there tried for their lives. Of five sentenced to death ,two were pardoned by the Governor and one was offered pardon upon his becoming the executioner of his two remaining fellow convicts. Against this he violently protested, while his comrades plead with him to save his life by doing the Governor's command.

In 1776 the whole colony had disappeared from New Smyrna, and this splendid foundation for a great industry, planted under the most flattering auspices, was lost to the people of Florida at a time when it could have done so much for their material and permanent prosperity.

In 1771, historian Fairbanks tells us further that "Mr. Oswald established a plantation on the Halifax, still designated as Mount Oswald, and Mr. Rolle, at Rollestown, near Palatka. There were settlements also at Beresford and at Spring Garden. The cultivation of cane was begun on the Halifax under the fostering care of the British government and would in a few years have become a very important industry in Florida." But the disastrous conditions prevailing at New Smyrna seemed to cast their blight over other efforts to develop into a great industry the manufacture of sugar on the Halifax river, and in the adjacent country, though the soil and climate were so admirably suited to the cultivation of cane.

About this period the cultivation of sugar cane in Florida drops out of written history, but there can be no doubt that during this gap in the records sugar cane was, and has been, extensively cultivated in almost all parts of Florida, and sugar for domestic use has been manufactured from it.

Between 1850 and 1860, Major Robert Gamble, of Tallahassee, moved to Manatee county and embarked in the sugar industry. He erected a mill for the manufacture of sugar, which was considered a great success; but the breaking out of the civil war put an end to the industry. Unfortunately Major Gamble's residence was destroyed by fire a few years ago and all records of the industry, which he had prepared for publication, were lost.

In the U. S. census for 1860, Florida is credited with "1,669 hogsheads, or 2,002,800 pounds of sugar," and it is generally considered that this amount included the first year's product of sugar manufactured by the Gamble Mills. A person by the name of "Crofield" also established a sugar cane factory on property quite near the Gamble mill about this same time, and it is presumed the cane of this factory was also consumed by the Gamble mill.

This brings us down to the period of the St. Cloud sugar factory at Kissimmee, built and controlled by Hamilton Disston, and which began operations under most promising prospects, till the unexpected death of Mr. Disston put a check upon the experiment and the mill was permanently closed.

Prior to this time some very interesting and important work had been carried out relative to comparative cost of cultivation of sugar in Florida, Cuba and Louisiana. Of course, these figures are not expected to obtain under present conditions, but they serve well to show the favorable position that Florida occupies and her possibilities for favorable sugar production.

The following extracts from the report of Prof. D. C. Sutton, chemist of the St. Cloud plantation, are peculiarly interesting.

"Although labor is higher here at present than in Louisiana or Cuba, a comparison with the above places will show a decided difference in cost of cultivation in favor of Florida.

In making these estimates, we suppose the land to be cleared, ditched and ready for plowing.

For Cuba:

Preparation of land	$12.45
Work of planting	9.00
Value of seed cane	3.60
Two weedings	6.60
Three plowings	6.00
One thrashing	1.50
Total cost of plant cane	$39.15

From the above we would see that the cost of one acre of stubble would be:

Two weedings	$ 6.60
Three plowings	6.00
One thrashing	1.50
Cultivation of one acre of stubble	$14.10

On good lands in Cuba, that are well cared for, crops may be gathered from one planting, with an average yield of 27½ tons, under the conditions that the lands shall be new and the cultivation done with care.

From other authority we learn that cane will rattoon there from 12 to 14 years.

The cost of cultivation per acre of plant cane in Louisiana would be:

Preparation of land	$ 5.25
Value of seed cane, 4 tons per acre, $4.00 per ton	16.00
Planting	1.50
Two weedings	4.50
Four plowings	8.00
Cleaning ditches	.25
Total cost of cultivation one acre plant	$35.00

Cost of stubble per acre:

Two weedings	$ 4.09
Four plowings	8.00
One stubble harrowing and digging	.50
Cleaning ditches	.25
Cost of cultivation of one acre stubble	$13.25

A good yield for plant cane is 22 tons per acre and stubble 14 tons; thus the average would be 18 tons for plant stubble. Only two crops can be gathered from one planting.

The cost of cultivation in Florida is as follows:

Preparation of soil	$ 2.50
Value of seed cane, 4 tons per acre, $4.00 per ton	16.00
Work of planting	2.50
One weeding	2.00
Three plowings	5.00
Cleaning ditches	.25
Cultivation of one acre of plant	$28.25

For stubble:

One weeding	$ 2.00
Three plowings	5.00
Stubble digging	.25
Cleaning ditches	.25
Cost of one acre of stubble	$ 7.50

Exactly how many crops can be gathered from one planting cannot be definitely stated just yet. We can at present safely say, however, that cane will rattoon here from 9 to 10 years; how much longer remains for time to tell.

Thus, summarizing the foregoing figures, we have the following comparative costs of cultivation in the three countries in a closer form:

Cost of cultivation one acre plant in Cuba	$39.15
Cost of cultivation one acre plant in Louisiana	35.50
Cost of cultivation one acre plant in Florida	28.50
Cultivation of one acre stubble in Cuba	$14.10
Cultivation of one acre stubble in Louisiana	13.25
Cultivation of one acre stubble in Florida	7.50

But only two crops can be gathered from one planting in Louisiana; then giving Florida and Cuba ten year stubble, we see that the average cost of cultivation one acre of cane in each of these respective places would be for a period of ten years:

Cuba	$16.64
Louisiana	21.27
Florida	9.57

The saccharine qualities of Florida cane are none the less good for its cheap cultivation and extensive yield."

Thus we see that Florida can produce more cane at less cost than either Louisiana or Cuba, and possibly the Hawaian Islands and Porto Rico. Certainly it can be manufactured into sugar as cheaply here as elsewhere, and thus solve a great national question which has puzzled scientific men and governments for years—especially during the late war.

This brings us down to the period when the Disston factory was suspended for reasons previously stated.

The State Department of Agriculture was created in 1889, and within that year a systematic record of sugar cane production and cane products was established and maintained, with records of all farm statistics, to the present time. It is not necessary to give the record of cane production, etc., for all these thirty years; so the following interesting statistics are submitted for the period of 1907-08 to 1917-18, inclusive:

STATISTICAL REPORT

SUGAR CANE				Converted into Sugar, this Syrup would yield approximately, pounds	Gallons Molasses, approximately	Value Sugar, at Average 5c per Pound, in Dollars	Value Syrup, as Reported, in Dollars
	Acres	Syrup Gallons	Sugar Manufactured Pounds				
1907-08	7,307	1,678,600	6,910	13,428,800	335,720	$ 671,440	$ 593,439
1909-10	7,522	2,202,025	29,335	17,616,200	440,405	880,810	792,230
1911-12	9,475	2,374,610	2,933	18,996,880	474,722	949,844	920,693
1913-14	14,088	3,321,465	....	26,571,720	664,293	1,328,586	1,337,081
1915-16	12,370	2,837,030	7,595	22,696,240	567,406	1,134,812	1,096,721
1917-18	16,318	3,558,205	15,810	28,465,640	711,641	1,423,282	2,681,664
Totals..........	....	15,971,935	62,583	127,775,480	3,194,187	$6,388,774	$7,421,828

Value of sugar for the period 1907-08 to 1911-12, inclusive, at 5c per pound	$ 2,502,094
Value for second period, 1913-14 to 1917-18, inclusive, at 8½c per pound (war period)	8,707,351
Total	$11,209,445
Value of crop reported for full period, 1907-08 to 1917-18, inclusive	$ 7,421,828
Difference in favor of sugar had all syrup been made into sugar and sold as made	3,787,617
The molasses being a refuse product of sugar, should be credited to the sugar, which will add to the excess value of sugar over syrup	1,597,093
Thus, by making all of the syrup into sugar, the total value of the cane products for the period would have exceeded the value of the syrup by	5,384,710

Thus, approximately 70% of the cane products, under prevailing methods and conditions, are deliberately wasted.

Finally, there are at least 15 million acres of land in Florida unexcelled anywhere in the United States for the cultivation of cane and the production of sugar, and if all of these lands were placed in cultivation of cane in addition to more than as much more acreage in farm products, this State could furnish sugar for the whole world and feed many millions besides.

If all of the wet lands only in Florida were reclaimed and cultivated to sugar cane, they would produce more than 30 million tons, worth, at 8 cents per pound, over three billion dollars.

PINK BOLL WORM

For the Quarterly Bulletin.

A Contribution *By E. H. Sellards.*

On February 16th, 1918, a convention was held at Jackson, Mississippi, the object of which was to consider methods of control of the pink cotton boll worm, a new and very serious cotton pest.

DESCRIPTION OF THE INSECT.

The pink cotton boll worm in the adult or full grown condition is a small dull brown and apparently very harmless moth, which even when abundant is seldom seen in the field, because it hides away during the day and flies only in the late evening about dusk. The full grown insect lives but a short time and does no harm other than to deposit eggs.

The damage to the cotton is done by the young insect when in the caterpillar, "larval" or "worm" stage. The moth deposits the eggs on or near the cotton bolls. When first hatched the young caterpillar is a very small white worm which as soon as it comes from the egg begins to eat its way into the cotton boll. After going into the boll the young worm burrows to the center and feeds on the cotton seeds moving from one seed to another. Frequently a single boll is infested with many worms. The seeds are destroyed, the lint is stained, the cotton boll often rots and usually drops from the plant.

The worm continues feeding in the boll until it becomes full grown. In its later stages it is slightly pinkish in color from which it gets the name of pink cotton boll worm. When full grown the worm spins a cocoon in the cotton boll, but before doing so cuts an opening to the outside so that the moth when it comes out of the cocoon can escape from the boll.

From about four to twenty eggs are laid on a boll by a single moth. These eggs hatch in from four to twelve days. The worm itself requires about twenty to thirty days to become full grown in the boll. It then remains in the cocoon stage from ten to twenty days. It is thus seen that several generations may breed in the cotton during a single summer and the insect thus multiples very rapidly.

DIFFFERENT FROM THE COTTON BOLL WEEVIL.

The pink cotton boll worm must not be confused with the cotton boll weevil. It is an entirely different insect, being a moth and not a weevil. Both are serious pests to cotton, but of the two the pink cotton boll worm is much the more serious. Also the pink cotton boll worm is not to be confused with any caterpillar that feeds on the leaves of cotton. The pink boll worm feeds only in the cotton boll and eats the cotton seed, and is to be found only by cutting open the cotton boll and examining the interior.

HISTORY OF INTRODUCTION INTO THE UNITED STATES.

The pink cotton boll worm is believed to have been native to Egypt, but has now spread to practically all important cotton growing areas in the world except that of the United States. It has long been known in India and the cotton growing countries of Africa. During 1913 and 1914 through the importation of cotton seed it was brought from Africa to Brazil. In the same way it has been brought to Mexico where it is probably rather widely scattered. In the United States it is found at present, so far as known, only in Texas, and at only two localities in that State. The introduction into Texas from Mexico is believed to have been entirely accidental, and was due to the salvage of cotton from a wrecked ship carrying Mexican cotton. This cotton being not very perfectly ginned contained some seed, and in the seed the pink boll worm.

This first infestation in Texas was on the Guif coast near Galveston. Before being discovered the insect had spread for some distance along the coast and as much as seven miles inland. The second infestation in Texas is near the town of Hearne which is over 100 miles inland from the Gulf Coast. This infestation is believed to have been due to the shipment of cotton seed from the area near the Gulf before the infestation there had been discovered.

AMOUNT OF DAMAGE DONE BY THE PINK COTTON BOLL WORM.

The damage that would result from the presence of this insect in the cotton belt of the United States can oniy be estimated by the damage that it is known to have done elsewhere. In India the loss from this insect in the cotton crop is estimated at $10,000,000 per year. In Egypt the loss is estimated at not less than ten per cent of the crop each year and is often much more than that. In Brazil the cotton crop where the insect was present was reduced as much as 50 per cent within three years after being infested. In Honolulu cotton growing has almost ceased since the introduction of this pest. From all available evidence it seems certain that this is much the worst cotton insect known.

METHODS OF CONTROL.

The methods of control of the pink cotton boll worm must be based on a knowledge of the habits of the insect. First of all it is known that the adult moth does not fly any great distance and that naturally by its own means it spreads very slowly. On the other hand the fact that the young, or larvae, feed on cotton seed and live through the winter in the cotton seeds makes the spread by shipment of cotton seed very rapid unless properly controlled. In fact the spread of the insect over large areas is accomplished almost entirely by man himself. Therefore the natural method of control of the insect is to prevent its being carried from place to place in cotton seed or in any other way.

FUMIGATION OF COTTON SEED.

It has not yet been shown to just what extent cotton seed can be made safe for shipment from an infested area by fumigation. It is known that the insect when spending the winter in the cotton seed encloses itself in a web and often mats two cotton seeds around it as protection. It is probable therefore that fumigating gases do not readily get the insect. Carbon bisulphide and hydrocyanic acid gas are being used but it is doubtful if any one can say at present just how reliable these gases are in getting to and killing the insect in cotton seed.

CONTROL METHODS IN TEXAS.

The methods of control that are being used in the infested areas in Texas are intended not only to prevent spread but also to entirely exterminate the insect. The plan of control there used is as follows: When infestation is discovered the infested area is quarantined so that the shipment both of the cotton and cotton seed can be controlled. The second step is to discontinue, through proclamation from the Governor, the growing of cotton in the infested area for a period of three years. Finally there is also declared around this area a cotton free zone ten miles in width in which cotton shall not be grown. The worm is not certainly known to feed on any plant other than cotton, hence the discontinuance of growing of cotton in an area for a period of three years is believed to be sufficient length of time to insure the eradication of the insect. The ten-mile wide surrounding zone is believed to be wide enough so that no adult moths will spread by flight or being carried by the wind or otherwise.

HOW TO RECOGNIZE THE INSECT.

It is not believed and it is not probable that the pink cotton boll worm has found its way into Florida. However, since insects may be carried in many accidental ways as the introduction into Texas shows, farmers in Florida should always be on the lookout for any new or unknown insect in their cotton fields. It is especially important in case of infestation to discover the insect when first introduced and before it has spread so that it can be the more easily controlled and exterminated.

It is not always easy for the farmer to distinguish this insect from others that are more or less like it and in case of doubt the only safe plan is to send the unknown insect to the entomological department of the State Experiment Station for identification. When looking for this insect in the cotton field, search should be made for a small dusky brown moth scarcely one-half inch long which appears very shy, and will quickly hide from sight by getting under leaves, grass or loose dirt. The moths fly mostly about dusk and will seldom be seen at midday. If infestation is suspected the cotton bolls should be searched for the worms feeding on the cotton seeds. These worms are small, hardly one-half inch long when full grown. When young they are white worms with brown heads, and when nearly full grown the body becomes somewhat pinkish in color. The cocoon is also found in the boll near the outer edge and always with a hole cut to the exterior so that the moth when it emerges can get out. As already stated the caterpillars feed almost entirely in the bolls and never on the leaves, so that ordinary caterpillars feeding on cotton leaves need cause no uneasiness so far as this insect is concerned.

From what is known of the habits of the pink cotton boll worm we may reasonably be encouraged to believe that by the application of proper scientific methods and the strict control of the shipment of cotton and cotton seeds this very serious cotton pest can be entirely eradicated and permanently excluded from the United States. Careful watch for any possible infestation and prompt and rigid action to exterminate the pest should it gain a foothold are the measures absolutely necessary to the freedom of the cotton belt of the United States from this additional serious cotton insect.

RELATIVE TO A NEW OUTBREAK OF THIS PEST IN LOUISIANA, THE U. S. DEPARTMENT OF AGRICULTURE SAYS:

"Unless radical steps are promptly taken the worst known pest of cotton will get out of hand.

The pink boll worm of cotton, previously supposed to exist in this country only in Texas, has been discovered at a number of places in Cameron Parish, Louisiana, where it is believed to have been for at least two years. It has been found also in Calcasieu Parish, but so recently that definite information as to distribution is not available. The old infested area around Trinity Bay has also been somewhat extended. Lots of cotton seed ranging from 1 to 20 cars have been shipped from Cameron Parish to Alexandria, Broussard, Shreveport, Bunkie, and Monroe, La., San Antonio, Fort Worth, Houston, San Marcos, and New Braunfels, Tex. Several of these points have no oil mills and the seed was probably used for planting. Thus, there is the possibility that the pink boll worm has been scattered to all of these sections and possibly to others not yet determined.

This brings about a serious situation for the cotton industry of the United States, says the United States Department of Agriculture. Unless the radical but necessary steps are promptly taken by the States concerned in cooperation with the Federal Department of Agriculture, the pink boll worm will certainly get out of hand and the work of extermination already carried out in Texas will be lost. Congress has been asked to provide additional funds and to make them immediately available.

CONFERENCE TO PLAN WORK.

A conference was held in New Orleans on March 5, which was attended by reprecentatives of all the cotton States and of the Department of Agriculture. The conference was called by Gov. Pleasant, of Louisiana, in cooperation with Governor-elect Parker, who is president of the American Cotton Association. The purpose was to consider the whole situation as it has now developed and to secure the taking of necessary steps by Texas and Louisiana and any other States concerned to meet the emergency.

The newly discovered infestations in Cameron and Calcasieu Parishes, Louisiana, and Orange County, Texas, are along the lower course of the Sabine River, near the Gulf of Mexico. In addition, there is some reinfestation of the old Trinity Bay area in Texas, but the work of recleaning that area has almost been completed. The work, however, has consumed practically all the money that the United States Department ofAgriculture had available for pink boll worm eradication. Reinfestation around Trinity Bay was due to a modification of the policy originally agreed upon by the department and State authorities of allowing no cotton to be grown in infested areas for a period of two or three years.

A revision of the State pink boll worm Act permitted cotton to be grown, under restrictions in the Trinity Bay area during 1919. The reinfestation which has resulted from such growth of cotton is scattered pretty well over the old district, but the actual points of infestation are very few as compared with 1917, and the amount of infestation in the fields where the insect has been found is insignificant as to numbers. The results clearly indicate, say the specialists of the department, the possibility of extermination by the method of establishing noncotton zones and the cleaning up of all volunteer cotton if continued for a sufficient period. It was deviation from this method that brought the reinfestation in Texas, and the department will insist that it be strictly followed in the tremendously greater task that now confronts the country. "This is the only means of control," says the department, "that gives us hope of ultimately eradicating this most destructive pest of cotton, and the success of the work must necessarily depend on the absolute co-operation of the States concerned.

LOUISIANA TAKES ACTION.

Louisiana, immediately upon the discovery of the infestation in Cameron Parish, declared a drastic quarantine prohibiting the growth of cotton and providing for the destruction of existing coton and cotton seed within a radius of 15 miles of any infested point in that State. No provision has been made, however, for compensating planters for cotton destroyed. It is absolutely necessary, the department says, that some provision be made to reimburse the planters for losses which they must accept in the interest of the cotton industry as a whole. The payment of these losses, it is pointed out, will be very small as compared with the risk to the cotton crop should the pink boll worm get beyond control.

The possibilities of further spread, due to the shipment of presumably infested cotton and cotton seed from Cameron Parish makes it necessary that all such shipments be traced to destination and that steps be taken to safeguard any local infestations that may have resulted."

THE PINK BOLL WORM OF COTTON

By Wilmon Newell, Plant Commissioner.

State Plant Board of Florida.

The most serious insect pest of cotton known is the Pink Boll Worm. This insect has occasioned tremendous losses in the countries where it has been permanently established. It is known to be present in India, Egypt, Brazil, Mexico, and the Hawiian Islands. In certain of these countries, under favorable conditions, the cotton crop has been damaged as much as 60 per cent. The insect was introduced into the United States some years ago in shipments of cotton seed from Mexico. These shipments were made into Texas and infestation was found in the Trinity Bay section of Texas in 1917. When the presence of the insect was discovered its eradication was undertaken by the United States Government and the State authorities of Texas. This eradication work has been prosecuted vigorously and has given promise of ultimately being successful. Recent developments, that is within the past six weeks, indicate, however, that the American cotton industry is now confronted by probably the most serious situation that it has ever had to face. These developments are the discovery of pink boll worm in three of the southwestern Parishes of Louisiana and in parts of Texas outside of the previously known to be infested area. All indications make it appear that the infestation in southwestern Louisiana, which is severe, is of some years standing, certainly two years and perhaps three years. Investigations have not yet been completed to determine the exact areas of infestation but there is every reason to believe that the pink boll worm will be found to be present in other parts of

Louisiana and Texas than those already known to be infested. This conclusion seems to be justified by reason of the fact that during the past two or three years large quantities of cotton seed have been shipped from the now known to be infested area in southwestern Louisiana to numerous points in the States of Louisiana and Texas. Shipments of seed have also been made to other points in the cotton belt. It will not be until after these shipments of seed have been traced and careful investigations have been made in all parts of the cotton belt that the authorities will know whether or not infestation exists throughout the cotton producing section of the country.

The States of Louisiana and Texas and the United States Government propose to handle this situation vigorously. A large appropriation had already been made by Congress for continuance of the eradication work and it is understood that even larger sums will now be appropriated in view of the recent developments. Florida and other of the cotton States have already imposed quarantines against the movement into these respective States of cotton and certain cotton products, and of cotton seed and its products. These quarantine measures are regarded as highly essential to the protection of the industry in preventing the further possible spread of infestation from hidden or undiscovered infested areas. The authorities expect that all persons interested in the production of cotton will render every assistance in the application of quarantine rules. Planters, commercial users of cotton and transportation companies must realize that it is for their protection and the future good of the country as a whole that these restrictive measures have been placed in effect. It is realized by the authorities that considerable inconvenience will be attached to the application of the quarantine rules but it appears that the seriousness of the situation amply justifies and warrants the use of drastic measures.

The quarantine regulations of the State of Florida are embodied in Rules 45-A and 45-B, adopted by the State Plant Board at its meeting in Jacksonville on March 8th. These Rules were adopted in accordance with Chapter 6885 Laws of Florida. Under these Rules the shipment into the State of Florida from the States of Louisiana and Texas of cotton, seed cotton, cotton linters, cotton waste, cotton bagging, etc., and of cotton seed, cotton seed hulls, machinery and implements used in the cultivation, harvesting or manufacture of cotton is absoletely prohibited. Also under these Rules shipment of seed cotton, cotton (lint, linters, waste, etc.), cotton seed and cotton seed hulls from States other than Louisiana and Texas is prohibited except under permits from the Plant Commissioner, Gainesville, Florida. These permits are issued by the Plant Commisioner upon the request of shippers when such request is accompanied by affidavits or other information indicating to the Plant Commisioner that the shipment may be made with relative safety. Such affidavits must SHOW clearly the POINT OF ORIGIN of the material for which permit for shipment is desired. It should also be indicated that the shipper (or producer) has not received, directly or indirectly, from Louisiana or Texas since January 1, 1918, any cotton or cotton seed or any other dangerous material. A specimen form of affidavit is attached to serve as a guide.

In order that there may be some slight appreciation of the possible damage which may be done to the American cotton industry should the pink boll worm find permanent and wide-spread lodgement in the cotton belt it may be stated that in the opinion of competent authorities we may expect a loss of 30 per cent. It must be understood that this loss is in addition to the loss already occasioned by the Mexican boll weevil. From the foregoing statements it would appear that with a wide-spread and permanent infestation by pink boll worm the production of cotton would become practically impossible upon a commercial basis.

STATE PLANT BOARD

QUARANTINE DEPARTMENT.

Rules and Regulations of the State Plant Board Relating to the Shipment into Florida of Cotton, Cotton Waste, Damaged Cotton, etc.

SHIPMENT INTO FLORIDA OF COTTON, COTTON SEED, CERTAIN COTTON PRODUCTS, COTTON MACHINERY, COTTON BAGGING, ETC., FROM LOUISIANA AND TEXAS PROHIBITED.

At its meeting, held in Jacksonville, Florida, March 8, 1920, Rules Nos. 45-A and 45-B of the State Plant Board were adopted.

"Rule 45-A. In order to prevent the introduction of the pink boll worm (*Pectinophora Gossypiella* Saunders) the importation into the State of Florida from all foreign countries, from the States of Louisiana and Texas and from all States in which the pink boll worm may hereafter be found to exist, of cotton lint, linters, waste, sweepings and samples; and of seed cotton, cotton seed, cotton seed hulls, cotton ginning and milling machinery, cotton bagging and all things or materials which have been used in connection with growing, harvesting, baling or manufacturing cotton lint or cotton seed is hereby prohibited.

SHIPMENT OF COTTON, COTTON SEED, CERTAIN COTTON PRODUCTS, ETC., INTO FLORIDA FROM STATES OTHER THAN LOUISIANA AND TEXAS, PROHIBITED EXCEPT UNDER PERMITS.

"Rule 45-B. The importation into the State of Florida of cotton lint, cotton seed, seed cotton, cotton seed hulls, cotton linters, cotton waste, cotton sweepings, cotton samples, cotton mill waste, damaged and redried cotton is prohibited from all States of the United States other than Texas and Louisiana; provided, that shipments of seed cotton, cotton seed, cotton seed hulls, cotton lint, cotton linters, cotton waste, cotton sweepings, cotton samples, cotton mill waste, damaged and redried cotton from States other than Texas and Louisiana, may be made into Florida upon special permits issued by the Plant Commissioner (Gainesville, Florida) after he has been furnished with satisfactory affidavit or other evidence as to the point of origin of the material included in such shipments and with such other information as may be necessary to establish the safety of such shipment or the freedom of same from possible infestation by the pink boll worm of cotton (*Pectinophora Gossypiella* Saunders)."

The above quoted rules and regulations, having been adopted in accordance with the provisions of the Florida Plant Act of 1915, Chapter 6885 of the Laws of Florida, have the full force and effect of law. The compliance therewith on the part of all shippers and common carriers is requested in order that the cotton industry of Florida may be protected against danger from the pink boll worm.

WILMON NEWELL,

Plant Commissioner, State of Florida.

Gainesville, Florida, March 10, 1920.

Since the Above Article was Put in Type the U. S. Government has Issued the Following Relating to the Same Subject.

FEDERAL AND STATE QUARANTINE WITH RESPECT TO THE PINK BOLL WORM

As a result of the hearing conducted April 6 and 7 by the Federal Horticultural Board of the United States Department of Agriculture on account of the pink boll worm, an after consultation with the Governor and other authorities and representatives of the State of Texas, and with official and other representatives of the State of Louisiana, the Federal Horticultural Board will recommend to the Secretary of Agriculture the following quarantine and restrictive action to be enforced by these States in co-operation with this department with the object of preventing the further spread and effecting the extermination of the pest. The prompt carrying out of these plans has been definitely promised by the official representatives of these States.

QUARANTINE AND RESTRICTIVE ACTION AS TO TEXAS.

1. The State of Texas will establish and enforce a noncotton area covering the regulated zone now in effect in southeastern Texas with certain additions to include new points of infestation which have been determined outside of the old quarantine line. This zone involves all, or portions of the Counties of Jefferson, Chambers, Galvestion, Brazoria, Harris, Liberty, Fort Bend, Jasper, and Newton.

2. In addition to and sourrounding this noncotton area, as a further factor of safety, the State of Texas will establish and enforce a regulated zone of 25 miles in width. The growth of cotton in such regulated zone will be permitted under the restriction that the rop shall be under the full control of the State authorities in cooperation with the United States Department of Agriculture for the purpose of enforcing any safeguards that shall be determined to be necesary.

3. The State of Texas will establish similar regulated zones of a ten-mile radius surrounding all oil mills in Texas which are nkown to have received seed during the last three years from the Parishes in southwestern Louisiana now known to be invaded by this pest. Such points in Texas are now known to include Houston. San Antonio, San Marcos and Snyder.

4. In addition it is understood and agreed that the State of Texas will maintain and continue the noncotton zone established for the last two years at Hearne, Texas, and the nonotton zone established fro 1918, including the Counties of Presidio and Brewster, in the Great Bend of the Rio Grande; and will continue the quarantine with respect to Valverde, Kinney and Maverick Counties on the basis of a noncotton zone, extending inward five miles from the Mexican Border of these Counties and the inclusion in a regulated zone of the portion of these counties outside of such border zone in which all cotton produced will be under the control of the State authorities in co-operation with the United States Department of Agriculture as in the case of other regulated zones.

The Governor of Texas hac agreed for the State to promulgate immediately the noncotton zones indicated and to take steps for the prompt establishment of the restriced zones referred to. He has further stated that he will convene the State Legislature in extraordinary session during May for the purpose of making such amendments as may be necessary to the Pink Boll Worm Act of the State to carry out the action indicated and to make provision by specific appropriation of State moneys for the reimbursement of planters in the noncotton zones for the losses which they may sustain as a result of the prohibition of the growth of cotton and for the reimbursement of such planters for cotton actually produced in 1919 and which has already been destroyed in control operations with respect to the pink boll worm.

QUARANTINE AND RESTRICTIVE ACTION AS TO LOUISIANA.

1. The State of Louisiana will establish and enforce as a noncotton area all of the Parishes of Cameron, Calcasieu and Jefferson Davis. Inasmuch as these parishes include a considerable area beyond known infestation,

the requirement of a regulated zone surrounding these parishes is deemed unnecessary.

2. The State of Louisiana will establish a regulated zone of a ten--mile radius surrounding all oil mills in Louisiana which are known to have received seed during the last three years from the parishes of southwestern Louisiana now known to be invaded by this pest. Such points in Louisiana are now known to include Shreveport, Monroe, Bunkie, Alexandria, Broussard, Eunice and Gretna.

The Governor and other authorities of Louiisana have already taken steps to provide and enforce such noncotton zone and also for the reimbursement of the losses of planters in such zone as a result of this action.

PROPOSED QUARANTINE ACTION BY THE U. S. DEPARTMENT OF AGRICULTURE.

The execution of this agreement and plan of action arrived at by the Federal Horticultural Board of this Department and the Official Representatives of the States of Louisiana and Texas will make it possible, the Secretary of Agriculture states, to limit the Federal quarantine to the noncotton and the regulated zones described as to these two States. This action will be supplemental to the State quarantines and for the purpose of giving Federal authority and aid in their enforcement.

It will place no restrictions on the movement interstate of cotton and cotton products out of the sections of Texas and Louisiana not included in the quarantined districts; in other words, the districts actually known to be invaded by the pink boll worm and the districts whic hhave been placed under regulation on account of contiguity to such districts or suspicion of possible infestation through movement of cotton seed. It is believed that it will be possible to discontinue many if not all of the regulated zones about oil mills in Texas and Louisiana which are under suspicion on account of having received seed from the invaded districts in Louisiana should the thorough inspection of the season of 1920 show absence of invasion by the insect at these points.

COTTON PRODUCTS INCLUDED.

It is proposed that these quarantines and restrictions covering movement of products out o fnoncotton and regulated zones of the States of Texas and Louisiana shall apply to all cotton products other than oil, including seed cotton and cotton lint—baled or unbaled—cotton seed, cottonseed hulls, cottonseed cake and meal, bagging and other containers that have been used with respect to cotton, and shall include also provision for such inspection and cleaning of common carriers, vehicles, etc., as may be necessary to prevent the accidental transportation of cotton seed.

The Department believes, and has been tentatively so advised, that this action on the part of Texas and Louisiana as co-operated in by the Federal Department of Agriculture will make it possible for the other cotton States of the South which have already issued quarantines or are contemplating issuing such quarantines against Texas and Louisiana on account of the pink boll worm to accept the Federal quarantine as fully meeting the needs of at least to limit such quarantine action to the areas and products overed by the Federal quarantine and by the quarantines promulgated by the States of Texas and Louisiana.

TOBACCO CULTURE IN FLORIDA

The tobacco plant may be grown successfully in all latitudes from southern Canada to the Tropics and on a great variety of soils, but the commercial value of the product is influenced to a greater degree by the particular soil and climatic conditions under which the plant is grown than is almost any other important crop. These facts are so well recognized that the tobacco industry has become highly specialized, and the trade regularly looks to certain well-defined areas of production for its supply of the various classes and types of leaf required. In these tobacco producing districts the necessary facilities for marketing are usually available, and prevailing prices of the cured leaf are governed largely by the relative supply and demand and by the quality of the leaf produced.

Each important district produces a tobacco of certain well-known characteristics which make it desirable for special purposes of manufacture or export. Moreover, in practically all of these districts the production can be readily increased to meet any increased demand at profitable prices. For these reasons, efforts to introduce the commercial growing of tobacco in sections outside of the established producing centers are likely to result in failure, either because the leaf produced is not quite right in type or satisfactory marketing facilities are not available. Furthermore, any development of the industry in a new section on a large scale, which would be essential for economical marketing, would most likely lead to over-production, and as a consequence, unprofitable prices. As a matter of fact, over-production is a constant menace in all of the established centers of tobacco growing.

The methods of growing and handling the crop must be varied according to the type of leaf which it is desired to produce, for the kind of tobacco obtained is influenced very greatly by the methods o fgrowing and handling which are employed. The methods for the production of the various types briefly outlined in the present bulletin, though possibly susceptible of improvement in some of the details, are the best than can be recommended in view of the present knowledge and experience of investigators and the more successful growers.

TYPES.

While cultural methods in their application to the different cigar-tobacco types and districts may be modified to advantage in some of the details, the essential features are more or less similar, so that it will suffice to outline the most approved methods, and only the more important differences in cultural methods to be followed in the remaining districts need to be mentioned.

CIGAR-LEAF TOBACCO VARIETIES.

The Cuban group is composed of strains or selections obtained from imported seed. Seed imported from Cuba is usually found to be composed of several distinct subvarieties. The Cuban is the only variety of much importance in the southern cigar-tobacco districts, where it is grown both for wrappers and for fillers, although the Sumatra variety formerly was grown extensively for wrapper leaf. In Florida a considerable acreage of Cuban tobacco for the production of wrapper leaf is grown under an artificial shade of cloth or wooden slats on frames.

CIGAR WRAPPER AND BINDER TYPE.

The area centering around Gadsden, Leon, Madison, Jefferson and Pasco counties, Florida, and Decatur county, Georgia, are the principal wrapper leaf sections. The typical wrapper leaf soils of Florida are fine sands and sandy loams containing only a very small percentage of clay and having a very limited capacity for holding water.

THE SEED BED.

A well-drained friable soil having a southern or eastern exposure is to be preferred for the seed bed, and when practicable a suitable spot in the woods is chosen. Selecting a time, after removing the forest growth, when the soil is not too wet, it is burned to destroy weed seeds and insects. A good method is to lay small poles or skids over the area to be burned, at intervals of three feet, and to pile brush and wood on one end of the skids. After setting fire to the brush, the burning material is pulled forward on the skids as rapidly as the soil becomes sufficiently heated and sterilized to a depth of two or three inches. After removing all debris, the soil is thoroughly spaded or plowed to a depth of a few inches. Before seeding, a fertilizer consisting of about five pounds of cottonseed meal or two or three pounds of nitrate of soda and one pound of acid phosphate for each one hundred square feet of bed is to be worked into the soil. In sowing, the seed should be mixed with a large volume of fertilizer, corn meal, or sifted ashes (about two quarts for each teaspoonful of seed), in order to secure an even distribution of the seed. A heaping teaspoonful of seed is sufficient to sow 25 square yards of seed bed and should furnish enough plants to set an acre in the field. The seed beds may be sown in January, February or March. The seed must be covered only very lightly, and it is better simply to press the soil down firmly by trampling or with a board or roller. The bed should be surrounded with logs or boards set on edge to a height of six to ten inches to form a cold frame, over which are stretched wires to support the cheese cloth which is to be placed over the frame before the plants come up. The precautions regarding watering and hardening the plants prior to transplanting, as described for the cigar types, are to be carefully followed.

TRANSPLANTING AND CULTIVATING.

Prior to transplanting, the land should be thoroughly fitted by plowing and harrowing, after which the rows are laid off, the preferred distance between rows being 3½ feet. The plants are ready to set when 4 to 6 inches high. The accurate spacing of the plants may be readily attained by using a simple marking device, which is drawn across the field so as to indicate the points at which the plants are to be set. Throwing up slight ridges for the rows will remove the danger of the young plants being drowned in case of heavy rains. Transplanting is done mostly by hand. Fertilizers should be applied in the process of preparing the land for transplanting. Ten to twenty tons of barnyard manure will not be too much per acre. Commercial fertilizers are generally used in addition, the usual application being 600 to 1,200 pounds per acre of a mixture containing about 3 per cent nitrogen, 8 per cent phosphoric acid, and 3 per cent potash.

Much larger quantities of fertilizer will give better results in most cases.

A cowpea or velvet bean soil plowed under in the fall gives good results with this type of tobacco.

Cultivation should begin as soon as the plants start to grow and should continue as long as the size of the plants will permit. The first cultivation is deep, after which frequent shallow cultivations are most desirable. Where the plants are set in checks they may be cultivated both ways, so as to reduce the amount of hand hoeing required to keep down weeds. The sweep and cultivator are the best plows to use.

HARVESTING.

Either of two methods of harvesting Havana Seed tobacco may be used. The one most commonly practiced is to cut the whole plant when the middle leaves are "ripe," i. e., when the leaves have assumed a lighter shade of green and have thickened so that upon folding a section of the leaf it creases or cracks on the line of folding. In harvesting the plants ,the stalk is cut near the ground with a light hatchet, knife, saw, or a special form of long-handled shears, and the plant is carefully laid upon the ground, where it is allowed to remain until the leaves have wilted sufficiently to avoid much breaking in handling. It is then hung upon a lath four feet long by piercing the stalk near its base with a removable metal "spearhead" placed on the end of the lath and sliding the stalk on the lath. As a rule, six plants should be hung on a lath and distributed evenly. Instead of spearing the stalk, it may be hung upon the lath by means of a hook or a nail driven through the lath at a sufficient angle to hold the plant securely. Six hooks or nails are put at equal distances on the lath, the three on one side alternating with those on the opposite side.

The laths carrying the plants should be placed upon a rack and hauled to the curing barn, where they are hung in tiers with a space of six to twelve inches between the laths.

In the second method of harvesting Havana Seed, the leaves are picked from the plant as they ripen. The degree of ripeness is not so advanced as that described for stalk-cut tobacco. The proper degree of ripeness is very important, for upon this largely depends the development of the desirable qualities of texture, body, color, elasticity, etc., during the process of curing. A safe guide is to take the first picking at the time the seed head forms, and subsequent pickings at intervals of six days. Five pickings should be made, the first one comprising the lower four leaves of commercial size, and, proceeding upward on the plant, the second and third pickings each including three leaves, and the fourth and fifth pickings three or four leaves each. As the leaves are taken from the plant they should be laid in the row and then carried by an attendant in baskets to the curing barn. Here, by means of a large needle, a string is passed through the stem of the leaf, one end of the string being attached to the end of the four-foot lath, and when the string is full the free end is attached to the other end of the lath. Each lath should carry from 36 to 40 leaves and the leaves should be put on in pairs, so that they are back to back and face to face. The laths should be spaced five inches apart in the curing barn. Never cut tobacco while the dew or raindrops remain on the leaves, as black spots will result. It is preferred to cut in the afternoon, as the sun is getting weaker; in the forenoon, unless cloudy, there is danger of sunburn, which will result in ten minutes just before noon. Before and after the plant is cut, be careful to remove every worm, as they will destroy the tobacco if taken into the barn, i. e., cigar leaf to be air-cured. If the ground has not been cultivated for two or three weeks before cutting there will be a nice carpet of grass on which to lay the tobacco when cut. Don't lay it down in the sand or dirt—select a shaded grassy place, and after it has wilted so as not to break, lay it very carefully on the straw on the floor of the wagon, and when a medium load is on, cover with a sheet or some weeds, so as to protect it from the sun while en route to the barn, where it must be placed on straw or a rug, very carefully, till the attendant, who must remain there, has speared it on the laths and put it closely up on the bottom tier poles, where it may remain till next noonday, when it should be carried up and adjusted on the upper tier poles. It should be put about six inches apart on the laths, and they about seven or eight inches apart on the poles.

Cigar Tobacco Barns.

All barns should be convenient to the tobacco field. For cigar leaf, never build one less than thirty feet wide and sixteen feet high at the sides, and as long as you please. You cannot let tobacco remain on the bottom tier poles in this climate, as it would be liable to mould in wet weather. A barn 32 by 50, with 16-foot posts and siding, is sufficient for five acres ordinarily. The first cutting may often be stripped and boxed to make room for the last cutting, as it will do to strip in 35 to 40 days if not very large. The tier poles should be 10 to 12 feet long.

Pine poles four or five inches in diameter, removing the bark with drawknife, make the best poles, and even good rafters. The posts should be 4 to 6, if sawed, and put on sills, which is the best on the outside. The two rows on inside (for there should be four rows of posts to have three spaces—a driveway in the middle) may be cut from the pine and cypress forests and placed on the ground. The middle posts should be 20 feet long to give pitch or slope to the roof. The eaves should project 12 to 18 inches, also the gable roof. The roof must be ventilated at the top, so as to allow the hot air to escape, otherwise the tobacco will char or "pole burn" near the roof. The laths should be four feet and two inches long—poles four feet apart and 3½ feet, one above the other—the first one 5½ feet from the ground floor. Windows should be made between each post ,which should be eight feet apart. They should be as long as possible and the width of three boards, say 30 or 35 inches wide, and 8 or 10 feet long, hung with strap hinges on top to push out at bottom every night and close every dry day while tobacco is hanging.

Stripping and Boxing.

Cigar tobacco is ready to strip from the stalk even before all the green has disappeared from the stalk, but not until the stem of the leaf is cured. By opening windows every night in July and August in Florida the tobacco will be soft or "in case" every morning, when enough should be taken down and covered to last the strippers for one day. Beginners should make only three or four

GRADES OF CIGAR LEAF.

First, wrappers (perfect leaves); second, binders (partially perfect leaves); third, filler (ragged and all imperfect leaves). The fourth grade should be the trashy leaves, which, if sold at all, should not be included with the crop. Always give the lower grade the benefit of the doubtful leaf. The best plan is to take off all the imperfect leaves first, leaving those with apparent wrapper qualities for more critical examination. Bind in "hands" (or bundles) of twenty to thirty leaves of even length and quality, and keep under cover till noon or evening, when it must be put into the boxes straight and compact, lapping tips about six inches, and let the butts be about one inch from the ends of the box, so as to allow the heat from the sweating process, which begins at once, to escape. Keep tobacco in boxes covered with cheap oilcloth while stripping, as a case or box may not be filled for several days. When full, fit boards and press down by standing on boards, or a small lever may be used. When the box is full it is ready for the local buyer, who expects to rehandle it in his own warehouse (until the average Florida tobacco grower has learned to grade more accurately) and sweat and otherwise prepare it for the manufacturer or the greater markets of this and foreign countries. It pays the farmer to sell quickly and take a few cents less and let the local dealer rehandle and grade more perfectly and sweat it or "betune it," thereby relieving the planter of a task he cannot well perform, if indeed they will pay him a fair price, otherwise he had better have it sweated or "betuned" and prepared for the manufacturer. Sometimes one hundred to five hundred per cent may be saved in this way.

Never undertake to soften or bring tobacco in case to strip or handle by "sprinkling or pouring," much less by "immersion." Nevertheless, if the weather should be dry and windy, and should so continue, your crop will be in great danger (in Florida) of injury from evaporation and deterioration, becoming dry and harsh or "bony and crusty." It should be put into the cases (boxes), which should be 2 or 2½ feet wide by 3 or 3½ feet long (but not made of pitch pine, as it will impart the turpentine odor), by or before the end of October or November (unless it is a fall crop, which is possible). It is important, to obtain the best results, to put Florida cigar tobacco in the boxes before its ''life blood'' has been evaporated by hanging too long on the poles. In other words, its inherent moisture (sap) should be conserved by early stripping and boxing, for therein consists the secret of preserving the life, aroma, brilliancy and elasticity of the article, which keeps it soft, rich and mellow, besides preventing its corruption and consumption by moth and rust; for if this rule is not observed, and the tobacco is put up in a declining condition, so it will continue until for a year or two, when the little white worm, sometimes seen in old cigars made of poor, lifeless tobacco, will attack and consume it.

A SYSTEM OF GOOD ROADS IN EVERY COUNTY IN FLORIDA, A PUBLIC NECESSITY

The following is an extract from an address delivered by me at the Palm Beach County Fair, West Palm Beach, March 5, 1920:

A SYSTEM OF GOOD ROADS IN EVERY COUNTY IN FLORIDA, A PUBLIC NECESSITY

The citizens of Florida have never consented to vote for a State bond issue for good roads. A number of States have voted large bond issues for road building, these bonds to be liquidated by a direct State tax on real estate and personal property.

We have come to the time, however, when good roads are a public necessity in all of the counties of Florida, and we should have them. The agricultural development, and, in fact, all rural development is dependent on good roads.

The following is a plan I wish to suggest for raising a sufficient amount of money to give the whole State of Florida a system of good roads without placing a penny of tax on real estate and personal property.

The Oil Inspection Division of the Department of Agriulture, with one-eighth of a cent per gallon on gasoline, kerosene, etc., will put into the State Treasury this year approximately $50,000. Change this tax to 1 cent per gallon and the sum would be $400,000. The automobile license tax will approximate this year $400,000. If properly regulated, this tax would reach $600,000, thus making a total of $1,000,000 per annum from these two sources.

The average of eight hundred State convicts on the public roads, at a value of $500 each per annum, is equal to $400,000 in labor. Bond the State for $20,000,000. The United States Government would supplement for an equal sum, thus giving $20,000,000 more to meet the State's bond issue.

Counting the $20,000,000 that would be derived from a State bond issue, $20,000,000 Government funds and the labor value of the State convicts, for a period of ten years will give a grand total of $44,000,000 for a system of State highways.

By abolishing the lease system of County convicts, we would have an average of 1,600 laborers, worth $400 each per annum. This would add 6,400,000 worth of labor for the period of ten years.

If all of this $40,000,000 in money and the $10,400,000 in labor was available for use under the State Road Department, we ould have at the end of ten years a system of public roads in Florida not equaled by any State in the Union.

The $1,000,000 tax on motor vehiciles and gasoline will pay an annual interest of 5% on the $20,000,000 of State bonds.The increase in population and a better road system will increase this tax sufficiently to retire this $20,000,000 in 25 years. This plan would do away with the two-mill State road tax we now have and there would be no State tax required on our real estate and personal property to pay the interest on the bond issue, and liquidate the same in the period of 25 years.

There are 70,000 farms in Florida. From these farms we market, in perishables, staples and live stock, 70,000 carloads of products, or approximately 1,400,000 tons. Counting excess labor, expense and delay, it would cost at least $1.00 per ton more to get these products to market over poor roads than over good roads. This means a direct cost to the producer of $1,400,000 per annum. This cost must be added to the consumer's price, so it affects everybody. The wear and tear of vehicles, extra feed and gasoline, will amount to another $500,000. Good roads, then, means a direct gain to the producers of the State of not less than $2,000,00 per annum in marketing farm and grove products alone. This $2,000,000 loss is enough to pay every farm mortgage in the State in three years, to say nothing of the moving to market of many millions of dollars worth of poultry, live stock and other products that would be hauled annually over a system of good State roads.

Education is the transforming influence of the world and the basis of all progress. Agriculture is also basic. Upon it rests the commerce of the world and even civilization.

Good roads are the veins through which flow the very life's blood of education, agriculture and commerce. Good roads are one of the great sources of life to any country, and with better education, better agriculture and good roads Florida will come into her own in a decade. Having been born and reared on a Florida farm, and having had considerable experience in farm work, and having had experience in the work of education, in Florida, and knowing the State of Florida as but few men know it, I have for some time been convinced that Florida's future depends largely on three things, viz: "Better Schools, Better Agriculture and better Roads."

In sending out my good roads address to the Press and Boards of Trade of the State I used the following letter of transmittal:

Dear Sir:

I hand you herewith an extract from the address that I made at Palm Beach County Fair on the 5th inst., with reference to building a system of good roads for Florida. Please give my proposition your very best thought, and if you think the suggestion worthy of consideration, make such comment as you think it merits.

We must have a system of good roads for the entire State. It will cost many millions of dollars to build this system. Real estate and personal property are already too heavily tax-ridden. Some other source must be found from which to raise this money. Motor vehiciles and gasoline can and should pay the tax.

Fill the State with good roads and our farms will multiply ten--fold, and all rural development will increase proportionately. Young men and young women will stay on the farm and the "back to the land movement" will become a reality in this State.

No better slogan can be had for a real development in Florida than "BETTER SCHOOLS, BETTER AGRICULTURE, AND GOOD ROADS FOR EVERY COUNTY IN FLORIDA."

With best wishes, I am

Yours for development,

W. A. McRAE,
Commissioner of Agriculture

If the World War taught us anything it was to think in bigger terms and plan for bigger things. Education, Agriculture and Good Roads being three of the big things that Florida must look well to if she progresses as she should, and all being inter-dependent, I discussed in my West Palm Beach address, the subject of a State System of Good Roads and how to get them vithout taxing the real estate and personal property.

A large number of newspapers, Boards of Trade and individuals have heartily endorsed the plan. I do not believe that anyone in the State will oppose this plan, or some very similar plan, if he thoroughly understands it. This plan will not only *build a system of State Roads and pay the bonds in a reasonable time but it will also enable the State to remove the two mill tax now assessed for good roads.*

That the State might be bonded for good roads, under some safe plan, the Legislature, at the 1919 Session, passed the following Resolution:

> "HOUSE JOINT RESOLUTION NO. 279.
>
> A JOINT RESOLUTION proposing an Amendment to Section 6 of Article IX of the Constitution of the State of Florida Relating to Taxation and Finance.
>
> *Be It Resolved by the Legislature of the State of Florida:*
>
> That the following amendment to Section 6 of Article 9 of the Constitution of the State of Florida relating to taxation and finance is hereby agreed to and shall be submitted to the electors of the State for adoption or rejection at the next general election held hereafter, that is to say that Section 6 of Article 9 of the Constitution of the State of Florida be amended so as to read as follows:
>
> Section 6. The Legislature shall have power to provide for issuing State bonds only for the purpose of repelling invasion or suppressing insurrection, or for the purpoose f redeeming or refunding bonds already issued at a lower rate of interest, or for the purpose of acquiring, building and maintaining a system of good roads and bridges throughout this State under such regulations as may be prescribed by An Act of the Legislature; provided, that any bond issues authorized in pursuance hereof for a system of good roads and bridges shall not exceed in amount five (5) per cent of the total tax assessment of the State at the time of issue
>
> Approved June 7, 1919."

We can have a system of State Roads the equal of any State in the Nation and at the same time reduce the millage on real estate and personal property two mills. Will we do it?.

W. A. McRAE,
Commissioner of Agriculture.

Tallahassee, Fla.,
April 1, 1920.

PART II.

Crop Report.

DIVISIONS OF THE STATE BY COUNTIES

Following are the subdivisions of the State, and the counties contained in each:

Western Division.

Bay,
Calhoun,
Escambia,
Holmes,
Jackson,
Okaloosa,
Santa Rosa,
Walton,
Washington—9.

Northern Division.

Franklin,
Gadsden,
Hamilton,
Jefferson,
Lafayette,
Leon,
Liberty,
Madison,
Taylor,
Wakulla—10

Northeastern Division.

Alachua,
Baker,
Bradford,
Clay,
Columbia,
Duval,
Nassau,
Putnam,
St. Johns,
Suwannee—10.

Central Division.

Brevard,
Citrus,
Flagler,
Hernando,
Hillsborough,
Lake,
Levy,
Marion,
Orange,
Osceola,
Pasco,
Pinellas,
Polk,
Seminole,
Sumter,
Volusia—16.

Southern Division.

Broward,
Dade,
DeSoto,
Lee,
Manatee,
Monroe,
Okeechobee,
Palm Beach,
St. Lucie—9.

DEPARTMENT OF AGRICULTURE

W. A. McRAE, Commissioner **H. S. ELLIOT, Chief Clerk**

CONDENSED NOTES OF CORRESPONDENTS. BY DIVISIONS.

Western Division.—The spring is this, and all other sections of the State has been very unfavorable to all vegetation. Cold rains have prevailed, and frosts, though light, have been frequent. At this writing the weather is still unfavorable, retarding the growth of all crops just coming up. In many localities, damage is severe enough to necessitate the plowing up of considerable areas of cotton, and replanting.

The shortage of labor and cotton seed, created to a considerable extent by too close selling also prevented farmers in large numbers of cases, from planting the usual crop. A good deal of cotton was plowed up because of cold and later planted to other crops,—principally corn. This condition naturally brings about a shortness in the acreage of the cotton crop not originally intended, bue nevertheless, it cannot be helped. These conditions reduce the acreage in cotton to practically the same as that of last year and probably less. Otherwise, crop conditions in this district are good, though late; corn, and small crops not having been seriously affected by cold, are in good condition, and the acreage planted to these crops is the largest in the farming history of this district.

All the standard crops in this district are increased in acreage, except oats, which is about the same, and their condition at this time has never been better. This does not apply to vegetables and truck, but it does to livestock—the latter being in much better condition than is usual at this season of the year.

Northern Division.—The same climate conditions exist throughout this district as in the first named, and the same effects of these conditions have been felt throughout the season in this division. Crops of all kinds would have been slightly increased in acreage, and are in fair condition, but for unfavorable atmospheric conditions. About the same amount of injury has been done the cotton crop in this district as in the Western Division, and the reduction in acreage will probably be greater, proportionately, than in the former district. Probably, less cotton had to be plowed up than in the former—but a similar proportion of replanting has been done—planting to corn, taking the place of cotton. The same conditions of livestock exist in this, as in the other district, and as a matter of fact, livestock on the range has not been quite so good for years, as at this season of the year. All crops are in usual condition, with the exceptions noted. Tobacco is exceptionally good.

Northeastern Division.—In this division of the State, acreage planted to cotton is considerably decreased from last year,—the variety of cotton being Sea Island, has been very badly damaged by the boll weevil. The indications are for a smaller crop proportionately even, than in the Northern and Western portions of the State. Where the cotton is planted early, growers will meet with success as it seems that nothing but early planting will save the crop from this insect. The acreage of other crops in this division is about the same as that of last year, and indications are that corn and other crops (especially the forage crops) will be largely increased over those of last year. If unfavorable indications continue, this means that corn and other field crops will show a much smaller yield than the crop of 1919. It is noticeable also that in this and the first two districts discussed wheat has been planted to a considerable extent again this season.

Probably for the first time in many years rice and rye both show good increases. Acreages are in good condition throughout the counties for growing these grains. This is worthy of note for the reason that it will go a long way toward conserving and preventing the use of imported foodstuffs—such as wheat and rye flours. It is better to grow these crops than to buy them from outside. In this, as in the other districts the vegetables products and livestock are in fairly good condition.

Central Division.—In this division, both the vegetable and standard crops, were largely increased in acreage, and were in good condition; but, unfavorable climatic conditions seriously damaged many crops, which will necessitate replanting, and which will also delay maturity.

In this district acreages planted to field crops are of course, not so large in proportion to those planted to other crops, and in this district also, the bulk of the soil products consists of a larger proportion of fruit and vegetable crops.

It is also noticeable in this and other districts of the State that there are new and special crops that have not been planted to any great degree heretofore, that are now commanding attention. Dasheens are grown in twenty-three counties and are in demand as a commercial crop; they show prominently in this connection. There is notable improvement in the condition of citrus fruit groves in this division, as i nthe former ones. Livestock is reported in good condition from all parts and the business of growing livestock is growing rapidly. Good rains have covered this entire section of the State.

Southern Division.—In this division, given up chiefly to fruit and vegetable production, the increase in acreage has been large and in about the same proportion to crops in other sections of the State. Climatic conditions have been unfavorable and crops have suffered very much.

The same proportionate acreages in all crops grown in this division are in keeping with similar conditions in other sections of the State. If nothing further happens to prevent, this district as well as the others will produce good crops.

Even though, the above conditions look poor, the recuperative power of Florida sunshine will bring good results, though delayed. The consolation is that no section of the country can get ahead of us in the final maturity of crops, as the same unusual conditions have been experienced by the whole country.

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.

COUNTY	Upland Cotton	Sea Island Cotton	Corn	Millet
Western Division—	Acreage	Acreage	Acreage	Acreage
Bay	100	...	120	...
Calhoun	90	...	120	100
Escambia	50	...	105	100
Holmes	110	...	110	100
Jackson	90	...	110	100
Santa Rosa	60	...	105	100
Walton	90	...	115	...
Washington	85	...	110	...
Div. Av., per cent	84	...	112	100
Northern Division—				
Gadsden	120	...	100	...
Hamilton	100	60	100	...
Jefferson	80	...	90	...
Lafayette	...	65	100	75
Leon	90	...	125	80
Liberty	...	65	100	...
Madison	75	25	125	50
Taylor	...	65	110	...
Wakulla	90	...	104	100
Div. Av., per cent	93	52	106	76
Northeastern Division—				
Alachua	60	10	100	...
Bradford	...	...	110	...
Clay	...	...	100	100
Columbia	110	40	130	100
Duval	...	...	100	...
Nassau	20	30	100	...
Suwannee	50	50	105	100
Div. Av., per cent	60	33	106	100
Central Division—				
Brevard	...	...	...	...
Flagler	...	...	80	5
Hernando	...	...	100	...
Hillsborough	...	...	120	...
Marion	...	...	125	...
Orange	...	...	95	...
Osceola	...	...	100	...
Pasco	...	...	110	...
Polk	...	...	100	...
Seminole	...	...	100	...
Sumter	...	...	100	...
Volusia	...	...	105	...
Div. Av., per cent	...	...	103	5
Southern Division—				
Broward	...	...	100	...
Dade	...	...	100	...
DeSoto	...	...	100	...
Lee	...	...	..	...
Okeechobee	...	...	120	...
Palm Beach	...	...	125	...
Div. Av., per cent	...	...	109	...
State Av., per cent	79	43	107	70

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Oats	Milo Maize	Sugar Cane	Japanese Cane
Western Division—	Acreage	Acreage	Acreage	Acreage
Bay	100	...	120	120
Calhoun	100	...	125	115
Escambia	105	...	110	100
Holmes	100	...	120	...
Jackson	100	...	125	100
Santa Rosa	105	...	120	100
Walton	100	...	110	100
Washington	110	...	115	95
Div. Av., per cent....	103	...	118	104
Northern Division—				
Gadsden	100	...	125	...
Hamilton	100	...	100	100
Jefferson	75	...	110	...
Lafayette	75	...	90	95
Leon	115	...	125	100
Liberty	100	...	110	...
Madison	100	...	125	100
Taylor	100	...	110	...
Wakulla	100	...	120	108
Div. Av., per cent....	96	...	112	101
Northeastern Division—				
Alachua	75	...	150	100
Bradford	100	...	150	...
Clay	100	...	125	100
Columbia	140	...	150	200
Duval	100	...	110	85
Nassau	125	...	100	90
Suwannee	105	...	110	100
Div. Av., per cent....	106	...	128	113
Central Division—				
Brevard	...	...	...	...
Flagler	1	...	8	5
Hernando	75	...	130	115
Hillsborough	80	...	115	110
Marion	75	...	100	75
Orange	...	...	...	...
Osceola	100	...	120	...
Pasco	...	...	200	300
Polk	...	...	125	...
Seminole	...	...	75	...
Sumter	...	...	110	100
Volusia	...	...	110	110
Div. Av., per cent....	66	...	109	116
Southern Division—				
Broward	...	100	90	...
Dade	...	100	...	...
DeSoto	...	...	100	90
Lee	...	...	100	50
Okeechobee	...	...	125	100
Palm Beach	...	...	130	110
Div. Av., per cent....	...	100	109	88
State Av., per cent....	93	100	115	104

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REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Broom Corn	Sorghum	Kaffir Corn	Tobacco Open Field
Western Division—	Acreage	Acreage	Acreage	Acreage
Bay	...	...	...	...
Calhoun	...	100	100	...
Escambia	...	100	...	...
Holmes	...	110	...	..
Jackson	...	110	100	..
Santa Rosa	...	110	..	
Walton	...	110	...	..
Washington	...	95		...
Div. Av., per cent	...	105	100	..
Northern Division—				
Gadsden	...	100	...	90
Hamilton	...	100	...	...
Jefferson	...	100	...	..
Lafayette	...	...	...	...
Leon	...	100	90	90
Liberty	...	100	...	...
Madison	...	50	...	...
Taylor	...	90	...	...
Wakulla	...	90	...	120
Div. Av., per cent	...	91	90	100
Northeastern Division—				
Alachua	...	...	...	...
Bradford	...	...	...	...
Clay	...	100	...	...
Columbia	100	100	...	...
Duval	...	...	100	...
Nassau	...	...	...	50
Suwannee	80	100	...	125
Div. Av., per cent	90	100	...	88
Central Division—				
Brevard	...	...	...	...
Flagler	...	2	...	...
Hernando	...	...	...	...
Hillsborough	...	100	...	...
Marion	...	80	...	...
Orange	...	...	...	...
Osceola	...	100	...	...
Pasco	...	100	...	120
Polk	...	...	...	...
Seminole	...	...	...	...
Sumter	...	100	...	...
Volusia	...	100	...	...
Div. Av., per cent	...	83	...	120
Southern Division—				
Broward	...	...	...	...
Dade	...	...	...	...
DeSoto	...	...	...	...
Lee	...	...	...	...
Okeechobee	...	...	...	...
Palm Beach	60	...	...	...
Div. Av., per cent	60	...	...	...
State Av., per cent	75	95	95	103

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Tobacco Under Shade	Rye	Rice	Sweet Potatoes
Western Division—	Acreage	Acreage	Acreage	Acreage
Bay	...	...	100	110
Calhoun	...	100	...	110
Escambia	...	...	100	125
Holmes	...	...	100	115
Jackson	...	100	...	125
Santa Rosa	...	...	100	120
Walton	...	100	...	110
Washington	...	...	...	115
Div. Av., per cent	...	100	100	116
Northern Division—				
Gadsden	100	100	...	120
Hamilton	...	100	100	100
Jefferson	...	100	150	110
Lafayette	...	95	100	100
Leon	100	100	100	125
Liberty	...	100	100	110
Madison	125	100	50	100
Taylor	...	90	90	110
Wakulla	...	...	108	102
Div. Av., per cent	108	98	100	109
Northeastern Division—				
Alachua	...	75	...	100
Bradford	...	100	110	130
Clay	...	...	...	100
Columbia	...	110	100	110
Duval	...	100	100	100
Nassau	...	...	125	125
Suwannee	...	105	100	105
Div. Av., per cent	...	98	107	110
Central Division—				
Brevard	...	...	...	...
Flagler	...	1	10	20
Hernando	...	150	...	100
Hillsborough	...	...	...	110
Marion	...	50	...	125
Orange	...	...	...	...
Osceola	...	...	100	130
Pasco	150	200	100	200
Polk	...	...	...	110
Seminole	...	...	...	100
Sumter	...	90	90	110
Volusia	...	...	...	110
Div. Av., per cent	150	98	75	112
Southern Division—				
Broward	...	...	...	100
Dade	...	...	...	100
DeSoto	...	...	80	90
Lee	...	...	85	80
Okeechobee	...	...	...	95
Palm Beach	...	...	...	90
Div. Av., per cent	...	...	83	93
State Av., per cent	129	99	93	108

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Field Peas	Peanuts	Cassava	Velvet Beans
Western Division—	Acreage	Acreage	Acreage	Acreage
Bay	100	110	...	110
Calhoun	120	150	...	150
Escambia	100	70	...	100
Holmes	100	110	...	115
Jackson	110	110	...	120
Santa Rosa	105	115	...	110
Walton	110	110	...	115
Washington	105	115	...	110
Div. Av., per cent	106	111	...	116
Northern Division—				
Gadsden	90	90	...	100
Hamilton	100	100	...	100
Jefferson	105	100	...	125
Lafayette	100	110	...	110
Leon	115	125	...	125
Liberty	100	105	...	100
Madison	100	100	50	100
Taylor	100	100	...	100
Wakulla	100	99	...	112
Div. Av., per cent	101	103	50	108
Northeastern Division—				
Alachua	...	125	...	100
Bradford	...	150	...	100
Clay	100	110	...	100
Columbia	90	110	...	120
Duval	100	100	...	100
Nassau	100	150	...	125
Suwannee	100	100	...	100
Div. Av., per cent	98	121	...	106
Central Division—				
Brevard	...	...	...	...
Flagler	60	3	...	20
Hernando	...	110	...	120
Hillsborough	...	100	...	120
Marion	100	100	...	150
Orange	...	...	...	...
Osceola	100	...	100	120
Pasco	150	200	...	150
Polk	100	100	...	100
Seminole	100	...	...	100
Sumter	100	100	...	115
Volusia	100	100	...	100
Div. Av., per cent	101	102	100	109
Southern Division—				
Broward	100	100	...	100
Dade	100	100	...	100
DeSoto	100	90	...	100
Lee	100	80	75	100
Okeechobee	90	90	...	...
Palm Beach	100	90	...	100
Div. Av., per cent	97	92	75	100
State Av., per cent	101	106	75	108

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Cabbage		Irish Potatoes	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	100	90	100	85
Calhoun	100	85	100	80
Escambia	60	50	75	100
Holmes	100	70	105	75
Jackson	100	75	100	75
Santa Rosa	100	70	100	70
Walton	100	70	100	70
Washington	90	75	90	75
Div. Av., per cent.	94	73	96	79
Northern Division—				
Gadsden	120	85	100	75
Hamilton	...	...	100	80
Jefferson	110	90	100	80
Lafayette	50	75	50	75
Leon	100	95	100	85
Liberty	90	90	80	90
Madison	50	90	100	85
Taylor	...	...	100	80
Wakulla	...	...	...	...
Div. Av., per cent.	87	88	91	81
Northeastern Division—				
Alachua	75	75	50	75
Bradford	...	...	...	...
Clay	...	...	100	90
Columbia	...	...	100	90
Duval	100	100	100	75
Nassau	100	50	100	75
Suwannee	105	85	100	80
Div. Av., per cent.	95	78	92	81
Central Division—				
Brevard	3	25	5	25
Flagler	50	40	90	85
Hernando	100	100	100	80
Hillsborough	70	60	80	75
Marion	60	50	50	60
Orange	...	...	...	...
Osceola	100	100	80	80
Pasco	100	90	200	20
Polk	150	90	90	80
Seminole	100	100	100	100
Sumter	100	100	100	90
Volusia	100	95	100	80
Div. Av., per cent.	87	77	90	70
Southern Division—				
Broward	100	90	100	90
Dade	105	95	110	90
DeSoto	90	90	50	80
Lee	120	90	25	80
Okeechobee	95	90	95	90
Palm Beach	95	95	100	80
Div. Av., per cent.	98	92	78	85
State Av., per cent.	92	82	89	79

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Dasheens		Tomatoes	
	Acreage	Condition	Acreage	Condition
Western Division—				
Bay	...	...	100	80
Calhoun	...	...	109	75
Escambia	...	...	100	60
Holmes	...	...	...	...
Jackson	...	...	100	60
Santa Rosa	...	...	100	60
Walton	...	...	100	65
Washington	...	...	90	65
Div. Av., per cent	...	...	99	64
Northern Division—				
Gadsden	...	...	100	75
Hamilton	...	...	100	70
Jefferson	...	...	100	75
Lafayette	...	...	90	75
Leon	...	...	100	90
Liberty	...	...	...	...
Madison	...	...	...	...
Taylor	...	...	90	90
Wakulla	...	...	...	...
Div. Av., per cent	...	...	97	79
Northeastern Division—				
Alachua	...	...	100	80
Bradford	...	...	...	...
Clay	...	...	100	90
Columbia	...	...	100	90
Duval	100	100	100	100
Nassau	125	100	100	75
Suwannee	...	...	...	...
Div. Av., per cent	113	100	100	87
Central Division—				
Brevard	1	20	1	25
Flagler	1	25	2	30
Hernando	...	...	300	100
Hillsborough	...	...	110	90
Marion	...	...	75	50
Orange	...	...	100	80
Osceola	...	...	100	50
Pasco	...	...	...	...
Polk	...	...	80	75
Seminole	50	100	100	100
Sumter	...	...	100	85
Volusia	...	...	110	50
Div. Av., per cent	17	48	98	67
Southern Division—				
Broward	...	...	100	50
Dade	...	...	100	60
DeSoto	...	...	100	70
Lee	...	...	100	75
Okeechobee	...	...	105	90
Palm Beach	125	100	110	85
Div. Av., per cent	125	100	103	72
State Av., per cent	85	83	99	74

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Cucumbers		English Peas	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	...	...	...	...
Calhoun	100	80	90	90
Escambia	90	60	100	100
Holmes	...	...	...	...
Jackson	100	65	100	100
Santa Rosa	100	60	100	100
Walton	100	65	100	95
Washington	90	65	90	90
Div. Av., per cent.	97	66	97	96
Northern Division—				
Gadsden	90	70	...	...
Hamilton	90	70	...	..
Jefferson	100	75	...	...
Lafayette	90	75	...	...
Leon	100	85	...	...
Liberty	100	80	...	...
Madison	...	...	75	85
Taylor	80	90	...	...
Wakulla	...	...	...	...
Div. Av., per cent.	93	78	75	85
Northeastern Division—				
Alachua	100	80	...	..
Bradford	...	...	...	...
Clay	100	90	100	90
Columbia	...	...	100	90
Duval	100	100	100	100
Nassau	100	10	100	75
Suwannee	...	...	...	...
Div. Av., per cent.	100	70	100	89
Central Division—				
Brevard	...	...	...	...
Flagler	2	30	2	40
Hernando	...	...	...	...
Hillsborough	...	...	...	...
Marion	50	40	...	...
Orange	100	80	...	...
Osceola	70	70	...	...
Pasco	...	...	...	...
Polk	90	80	...	...
Seminole	100	100	100	100
Sumter	100	90	100	100
Volusia	100	80	100	100
Div. Av., per cent.	77	71	76	85
Southern Division—				
Broward	...	...	...	...
Dade	...	...	...	...
DeSoto	40	50	...	...
Lee	40	60	...	...
Okeechobee	90	90	90	90
Palm Beach	90	90	90	90
Div. Av., per cent.	65	73	90	90
State Av., per cent.	86	72	88	89

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Beans (String)		Beans (Lima)	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	110	80	100	80
Calhoun	110	75	...	...
Escambia	100	90	100	50
Holmes	...	...	...	...
Jackson	105	75	...	...
Santa Rosa	100	70	...	...
Walton	100	70	...	...
Washington	90	70	...	...
Div. Av., per cent.	102	76	100	65
Northern Division—				
Gadsden	100	70	...	...
Hamilton	100	75	...	...
Jefferson	100	80	...	...
Lafayette	75	80	...	...
Leon	100	85	...	...
Liberty	100	80	...	...
Madison	100	85	...	...
Taylor	100	85	...	...
Wakulla	...	...	...	...
Div. Av., per cent.	94	80	...	...
Northeastern Division—				
Alachua	100	80	...	...
Bradford	...	...	...	...
Clay	100	90	...	...
Columbia	...	...	...	...
Duval	100	100	100	100
Nassau	100	10	100	10
Suwannee	100	40	...	...
Div. Av., per cent.	100	64	100	55
Central Division—				
Brevard	...	...	...	...
Flagler	2	40	...	...
Hernando	100	70	...	...
Hillsborough	100	85	...	...
Marion	100	60	...	...
Orange	...	...	...	...
Osceola	100	100	...	...
Pasco	120	40	...	...
Polk	150	90	...	...
Seminole	100	75	100	75
Sumter	110	40	...	...
Volusia	100	100	100	100
Div. Av., per cent.	108	70	100	88
Southern Division—				
Broward	90	40	...	...
Dade	90	40	...	...
DeSoto	50	40	...	...
Lee	84	40	...	...
Okeechobee	95	95	100	90
Palm Beach	100	95	110	95
Div. Av., per cent.	85	58	105	93
State Av., per cent.	98	70	101	75

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY.	Lettuce		Romain	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	...	...	...	...
Calhoun	100	100	...	...
Escambia	75	50	...	...
Holmes	...	...	...	...
Jackson	...	...	...	...
Santa Rosa	...	...	...	...
Walton	...	...	...	...
Washington	...	...	...	...
Div. Av., per cent	88	75	...	...
Northern Division—				
Gadsden	100	90	...	...
Hamilton	...	...	...	...
Jefferson	100	95	...	...
Lafayette	...	...	...	...
Leon	100	100	...	...
Liberty	...	...	...	...
Madison	100	90	...	...
Taylor	...	...	...	...
Wakulla	...	...	...	...
Div. Av., per cent	100	94	...	...
Northeastern Division—				
Alachua	...	...	...	...
Bradford	...	...	...	...
Clay	...	...	...	...
Columbia	...	...	...	...
Duval	100	100	100	100
Nassau	75	10	...	...
Suwannee	...	...	...	...
Div. Av., per cent	88	55	100	100
Central Division—				
Brevard	1	40	...	...
Flagler	3	40	...	...
Hernando	...	...	...	...
Hillsborough	...	...	...	...
Marion	...	...	...	...
Orange	100	90	...	...
Osceola	120	100	...	...
Pasco	...	...	...	...
Polk	60	85	100	100
Seminole	100	85	100	100
Sumter	85	90	...	...
Volusia	105	95	...	...
Div. Av., per cent	72	78	100	100
Southern Division—				
Broward	...	...	...	...
Dade	...	...	...	...
DeSoto	...	...	...	...
Lee	...	...	...	...
Okeechobee	100	95	...	...
Palm Beach	110	100	...	...
Div. Av., per cent	105	98	...	...
State Av., per cent	91	80	100	100

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919—(Continued.)

COUNTY	Eggplants		Peppers	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	...	...	...	...
Calhoun	100	75	100	75
Escambia	100	65	100	70
Holmes	...	...	...	...
Jackson	...	...	...	...
Santa Rosa	...	...	100	60
Walton	90	60	...	...
Washington	80	60	80	50
Div. Av., per cent....	93	65	95	64
Northern Division—				
Gadsden	...	...	...	...
Hamilton	100	70	100	75
Jefferson	100	70	100	80
Lafayette	...	...	75	80
Leon	100	100	100	90
Liberty	...	...	...	...
Madison	50	80	75	80
Taylor	...	...	85	80
Wakulla	...	...	...	...
Div. Av., per cent....	88	80	89	81
Northeastern Division—				
Alachua	...	...	...	...
Bradford	...	...	...	...
Clay	...	...	...	...
Columbia	...	...	...	...
Duval	100	100	100	100
Nassau	50	25	...	...
Suwannee	...	...	...	...
Div. Av., per cent....	75	63	100	100
Central Division—				
Brevard	...	...	1	10
Flagler	2	20	2	20
Hernando	...	...	100	70
Hillsborough	...	...	...	...
Marion	...	...	...	...
Orange	...	...	...	...
Osceola	...	...	100	80
Pasco	...	...	...	...
Polk	...	...	...	...
Seminole	100	100	100	100
Sumter	...	...	...	...
Volusia	100	50	100	60
Div. Av., per cent....	67	57	67	57
Southern Division—				
Broward	90	70	95	70
Dade	90	75	100	75
DeSoto	100	70	100	65
Lee	200	75	100	70
Okeechobee	90	90	105	95
Palm Beach	90	90	110	95
Div. Av., per cent....	110	78	102	78
State Av., per cent....	87	69	91	76

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Celery		Beets	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	...	...	...	...
Calhoun	...	...	100	100
Escambia	...	...	100	75
Holmes	...	...	...	...
Jackson	...	...	...	...
Santa Rosa	...	...	...	...
Walton	...	...	100	70
Washington	...	...	90	80
Div. Av., per cent	...	...	98	81
Northern Division—				
Gadsden	...	...	100	90
Hamilton	...	...	...	...
Jefferson	...	...	100	100
Lafayette	...	...	100	90
Leon	100	100	100	100
Liberty	...	...	100	90
Madison	...	...	75	90
Taylor	...	...	...	...
Wakulla	...	...	...	...
Div. Av., per cent	100	100	96	93
Northeastern Division—				
Alachua	...	...	...	...
Bradford	...	...	...	...
Clay	...	...	...	...
Columbia	...	...	...	...
Duval	...	...	100	100
Nassau	...	...	50	100
Suwannee	...	...	100	50
Div. Av., per cent	...	...	83	83
Central Division—				
Brevard	...	...	...	...
Flagler	...	...	...	...
Hernando	...	...	...	...
Hillsborough	...	...	...	...
Marion	...	...	...	...
Orange	...	...	...	...
Osceola	100	100	80	100
Pasco	...	...	...	...
Polk	100	100	...	...
Seminole	75	100	100	100
Sumter	...	...	...	...
Volusia	100	100	100	100
Div. Av., per cent	94	100	93	100
Southern Division—				
Broward	...	...	...	...
Dade	...	...	...	...
DeSoto	...	...	...	...
Lee	...	...	...	...
Okeechobee	...	...	...	...
Palm Beach	100	100	110	100
Div. Av., per cent	100	100	110	100
State Av., per cent	98	100	92	91

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Onions		Watermelons	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	100	90	110	70
Calhoun	100	100	105	70
Escambia	100	100	100	70
Holmes	...	...	105	75
Jackson	100	100	110	80
Santa Rosa	100	100	110	70
Walton	90	90	105	65
Washington	90	90	110	60
Div. Av., per cent	97	96	107	70
Northern Division—				
Gadsden	100	100	110	80
Hamilton	100	95	100	85
Jefferson	100	100	110	85
Lafayette	100	100	75	80
Leon	100	100	115	80
Liberty	100	100	110	80
Madison	100	100	100	85
Taylor	100	90	110	85
Wakulla	...	...	105	90
Div. Av., per cent	100	98	104	83
Northeastern Division—				
Alachua	100	100	150	90
Bradford	...	...	...	...
Clay	100	100	100	90
Columbia	100	95	300	90
Duval	100	100	100	100
Nassau	100	75	125	90
Suwannee	100	80	100	95
Div. Av., per cent	100	92	146	93
Central Division—				
Brevard	...	...	5	25
Flagler	2	30	5	40
Hernando	100	100	300	90
Hillsborough	...	...	...	...
Marion	...	...	100	60
Orange	...	...	100	90
Osceola	80	50	80	50
Pasco	...	...	120	60
Polk	...	...	80	70
Seminole	100	100	100	75
Sumter	...	...	110	60
Volusia	100	100	30	50
Div. Av., per cent	76	76	94	60
Southern Division—				
Broward	...	...	...	...
Dade	...	...	...	...
DeSoto	...	...	...	...
Lee	...	...	...	...
Okeechobee	100	90	110	90
Palm Beach	100	90	120	95
Div. Av., per cent	100	90	115	93
State Av., per cent	95	90	113	80

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Cantaloupes		Strawberries	
Western Division—	Acreage	Condition	Acreage	Condition
Bay	100	70	...	...
Calhoun	100	70	...	...
Escambia	100	70	90	50
Holmes	...	...	...	...
Jackson	100	80	...	...
Santa Rosa	100	70	...	...
Walton	100	65	...	...
Washington	100	60	...	...
Div. Av., per cent	100	69	90	50
Northern Division—				
Gadsden	100	80	...	...
Hamilton	100	75	...	...
Jefferson	110	80	...	...
Lafayette	50	80	...	...
Leon	115	80	...	...
Liberty	...	...	...	...
Madison	90	85	50	100
Taylor	90	85	...	...
Wakulla	101	90	100	90
Div. Av., per cent	95	82	75	95
Northeastern Division—				
Alachua	50	80	...	...
Bradford	...	...	100	100
Clay	...	...	100	100
Columbia	...	...	...	...
Duval	100	100	100	100
Nassau	100	90	50	90
Suwannee	...	...	...	...
Div. Av., per cent	83	90	88	98
Central Division—				
Brevard	...	...	...	...
Flagler	5	30	2	40
Hernando	...	...	...	...
Hillsborough	...	...	...	...
Marion	...	...	...	...
Orange	...	...	...	...
Osceola	80	50	100	75
Pasco	50	50	150	100
Polk	...	...	150	100
Seminole	100	100	100	100
Sumter	50	60	...	...
Volusia	20	40	100	90
Div. Av., per cent	51	55	100	84
Southern Division—				
Broward	...	...	100	90
Dade	...	...	100	95
DeSoto	...	...	...	...
Lee	...	...	...	...
Okeechobee	...	...	...	...
Palm Beach	...	...	130	110
Div. Av., per cent	...	...	110	98
State Av., per cent	87	74	93	93

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PER-COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Orange Trees	Lemon Trees	Lime Trees	Grapefruit Trees
Western Division—	Condition	Condition	Condition	Condition
Bay	100	100	100	100
Calhoun	110	...	...	110
Escambia	80	...	...	...
Holmes	...	...	...	...
Jackson	...	...	...	...
Santa Rosa	...	...	...	...
Walton	...	...	...	...
Washington	...	...	...	...
Div. Av., per cent	97	100	100	105
Northern Division—				
Gadsden	...	...	...	...
Hamilton	...	...	...	...
Jefferson	...	...	...	...
Lafayette	90	...	...	90
Leon	100	...	...	100
Liberty	...	...	...	...
Madison	...	...	...	...
Taylor	90	...	...	90
Wakulla	90	...	...	90
Div. Av., per cent	93	...	...	93
Northeastern Division—				
Alachua	75	...	...	75
Bradford	...	...	...	...
Clay	100	100	...	100
Columbia	...	...	...	...
Duval	100	...	...	100
Nassau	...	...	...	...
Suwannee	...	...	...	...
Div. Av., per cent	92	100	...	92
Central Division—				
Brevard	...	...	...	...
Flagler	100	90	...	100
Hernando	150	...	...	150
Hillsborough	95	...	...	95
Marion	75	...	...	75
Orange	100	...	...	100
Osceola	100	100	100	80
Pasco	120	...	...	120
Polk	100	...	...	100
Seminole	100	100	100	100
Sumter	100	...	...	100
Volusia	85	...	...	80
Div. Av., per cent	102	97	100	100
Southern Division—				
Broward	90	70	75	95
Dade	90	75	80	95
DeSoto	95	90	90	90
Lee	95	90	90	95
Okeechobee	100	...	90	100
Palm Beach	100	...	95	100
Div. Av. per cent	95	81	87	96
State Av., per cent	96	95	96	97

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Bananas	Pineapples	Mangoes	Grapes
Western Division—	Condition	Condition	Condition	Condition
Bay	...	...	...	100
Calhoun	...	...	...	...
Escambia	...	...	...	75
Holmes	...	...	...	...
Jackson	...	...	...	90
Santa Rosa	...	...	...	...
Walton	...	...	...	90
Washington	...	...	...	85
Div. Av., per cent....	....	...	...	88
Northern Division—				
Gadsden	...	...	...	90
Hamilton	...	...	...	100
Jefferson	...	...	...	100
Lafayette	...	...	...	100
Leon	...	...	...	100
Liberty	...	...	...	100
Madison	...	...	...	...
Taylor	...	...	...	...
Wakulla	...	...	...	...
Div. Av., per cent....	...	...	...	98
Northeastern Division—				
Alachua	...	...	...	100
Bradford	...	...	...	...
Clay	...	...	...	...
Columbia	...	...	...	90
Duval	...	...	...	100
Nassau	...	...	...	...
Suwannee	...	...	...	...
Div. Av., per cent....	...	...	...	97
Central Division—				
Brevard	...	...	...	...
Flagler	...	...	...	100
Hernando	100	...	...	...
Hillsborough	...	...	...	...
Marion	...	...	...	...
Orange	...	...	...	...
Osceola	100	30	70	25
Pasco	...	...	...	100
Polk	...	...	...	...
Seminole	...	...	...	75
Sumter	...	...	...	90
Volusia	40	...	...	100
Div. Av., per cent....	80	30	70	82
Southern Division—				
Broward	50	40	45	...
Dade	60	40	50	...
DeSoto	90	...	...	...
Lee	95	...	100	...
Okeechobee	100	80	80	...
Palm Beach	100	80	80	...
Div. Av., per cent....	83	60	75	...
State Av., per cent....	82	45	73	91

REPORT OF ACREAGE AND CONDITION OF CROPS, PLANTED AND BEING PLANTED AND CONDITION OF FRUIT TREES BY PERCENTAGE FOR THE QUARTER ENDING MARCH 31, 1920, AS COMPARED WITH SAME PERIOD FOR 1919.—(Continued.)

COUNTY	Guavas	Avocado Pears	Peaches	Pears
Western Division—	Condition	Condition	Condition	Condition
Bay	...	...	100	...
Calhoun	...	...	100	90
Escambia	...	...	75	...
Holmes	...	...	...	...
Jacksno	...	...	80	70
Santa Rosa	...	...	...	..
Walton	...	...	85	..
Washington	...	...	90	..
Div. Av., per cent....	...	...	87	80
Northern Division—				
Gadsden	...	...	90	...
Hamilton	...	...	100	...
Jefferson	...	...	100	...
Lafayette	...	...	100	90
Leon	...	...	100	75
Liberty	...	...	90	...
Madison	...	...	25	...
Taylor	...	...	90	...
Wakulla	...	...	90	90
Div. Av., per cent....	...	...	95	85
Northeastern Division—				
Alachua	...	100	90	100
Bradford	...	...	...	...
Clay	...	...	100	100
Columbia	...	...	90	...
Duval	...	...	75	100
Nassau	...	...	50	90
Suwannee	...	...	...	...
Div. Av., per cent....	...	100	81	98
Central Division—				
Brevard	...	...	...	...
Flagler	100	...	60	90
Hernando	...	...	75	75
Hillsborough	...	...	...	...
Marion	...	...	25	20
Orange	...	...	90	100
Osceola	100	125	125	100
Pasco	100	...	100	...
Polk	...	...	...	...
Seminole	85	...	100	100
Sumter	...	...	90	...
Volusia	90	...	40	40
Div. Av., per cent....	95	125	78	75
Southern Division—				
Broward	50	50	...	...
Dade	60	60	...	...
DeSoto	90	80	...	...
Lee	100	90	...	...
Okeechobee	75	80	...	...
Palm Beach	70	85	...	...
Div. Av., per cent....	74	74	...	...
State Av., per cent....	85	100	85	85

PART III.

Rules and Regulations.

Analyses.

DEPARTMENT OF AGRICULTURE OF THE STATE OF FLORIDA

REGULATIONS FOR DRAWING, PACKING AND TRANSMITTING SAMPLES OF FERTILIZER AND FEED STUFF FOR ANALYSIS BY THE STATE LABORATORY.

All Other Rules and Regulations Relating to the Matter Herein Referred to or Discussed Are Hereby Rescinded.

ANALYSES MADE BY STATE LABORATORY.

Only such materials are analyzed by the State Laboratory as are directed by the Pure Food, the Fertilizer, and Stock Feed Laws.

There are no fees or charges of any kind made by the State Laboratory.

The State Laboratory is not permitted to compete with commercial laboratories.

No commercial work of any kind is accepted.

The State Laboratory does not analyze the materials used by, nor the products of Fertilizer, Feed Stuffs, or other factories, by which to guarantee their goods. Such analyses are commercial problems.

ANALYSES IN CRIMINAL CASES

The State Laboratory does not make post mortem examinations, nor furnish evidence in criminal cases (except as provided by the Pure Food, Fertilizer and Stock Feed Laws). Such analyses and examinations are made by specialists employed by the grand jury and prosecuting attorney, the cost being taxed as other criminal costs, by the court.

STATE OF FLORIDA.

DEPARTMENT OF AGRICULTURE.

February 10, 1920.

REGULATIONS GOVERNING THE TAKING AND FORWARDING OF SAMPLES OF COMMERCIAL FERTILIZER AND COMMERCIAL FEEDING STUFF TO THE COMMISSIONER OF AGRICULTURE FOR ANALYSIS BY THE STATE CHEMIST.

The following regulations for drawing, preparing and sending samples of commercial fertilizer and commercial stock feed, under the authority given in Section 15 of Chapter 4983, Acts of 1901 (Chapter XXII., General Statutes), as amended by Chapter 5660, Acts of 1907, and Section 15, Chapter 5452, Acts of 1905, as amended by Chapter 5661, Acts of 1907, and Chapter 7939, Acts of 1919, are this day adopted.

OFFICIAL SAMPLES, drawn by State Chemist, Assistant State Chemists or Inspectors.

An approximately equal quantity (a pint or a pound approximately) shall be taken from ten or more original packages of the same brand in the possession of any manufacturer, dealer or person, when the lot being sampled contains ten or more packages of the same brand.

In case the lot contains less than ten packages of the same brand, each package shall be sampled as directed.

Preparation of Sample.—The several samples, drawn as above from each package, shall be carefully and thoroughly mixed. From this well mixed lot drawn from each package as above, a fair sample of not less than one pound, in the case of fertilizers, and of not less than one-half pound in the case of stock feed, shall be placed in a bottle or tin can—approximately a quart can or bottle.

The sample shall be delivered to the State Chemist, who shall prepare the same for analysis (by properly grinding, mixing and sifting the same.) The State Chemist shall retain one-half of this prepared sample for analysis; the remainder shall be placed in a glass bottle, sealed, and identified by the laboratory number and date, and placed in the custody of the Commissioner of Agriculture. These duplicate samples shall be retained for a period of three months from the date of the certificate of analysis. In case of appeal from analysis of the State Chemist (within three months from the date of the certificate), the sample shall be retained indefinitely, until the final disposition of the case.

Special Samples.—Samples drawn and transmitted by the purchaser under Sections 9 of both the Commercial Fertilizer and the Commercial Stock Feed Laws.

SAMPLING TEN OR LESS PACKAGES.

The purchaser or owner of the material to be sampled, when the lot or shipment contains ten or less original packages, each bearing the guarantee tag and stamp required by law, of the same brand, shall take, in the presence of two disinterested persons, within sixty days after delivery, an approximately equal quantity (a pint or a pound) from each of the ten or less packages of the same brand.

NOTE: It is suggested that when practicable all samples should be taken with an approved "sampler" (a sugar, flour or cheese tryer, a prod augur, a semi-circular instrument of tin or sheet iron, capable of drawing a sample through the center of the package, approximately twenty inches long); the sample to be taken through the center of the package.

SAMPLING MORE THAN TEN PACKAGES.

In case the lot or shipment contains more than ten packages of the same brand, each bearing the guarantee tag and stamp required by law, a sample shall be drawn in the presence of two disinterested persons from ten or more packages.

After carefully and thoroughly mixing these samples, a fair sample of the mixture, not less than a pound in the case of commercial fertilizer, and not less than one-half pound in the case of commercial stock feed, shall be placed in a bottle or tin can, and sealed in the presence of the witnesses.

On the sample thus drawn shall be written the name and address of the purchaser, and the name of a disinterested party, who shall transmit the package to the Commissioner of Agriculture by mail or prepaid express, properly packed to prevent damage in transportation.

The purchaser, or sender, of the sample shall also address a letter to the Commissioner of Agriculture advising him of the sending of the sample, stating the number of original packages purchased, each bearing the guaranteed analysis and inspection stamp required by law, represented by the sample, the date of purchase, and the date of delivery of the goods.

NOTE: THIS LETTER MUST NOT BE ENCLOSED IN THE PACKAGE.

Blank form of the letter of transmittal will be furnished by the Commissioner of Agriculture and is published herein. It must be literally complied with, otherwise the sample will not be accepted for anaylsis.

SAMPLES IN PAPER OR WOODEN PACKAGES WILL NOT BE ACCEPTED.

These regulations are adopted to secure fair samples of sufficient size to allow the preservation of a duplicate sample in case of protest or appeal. This duplicate sample will be preserved for three months from the date of certificate of analysis.

The State Chemist is not the proper officer to receive special samples from the purchaser.

The drawing and sending of special samples is in rare cases in compliance with law. Samples are frequently sent in paper boxes, badly packed, and frequently in very small quantity (less than an ounce) and often there are no marks, numbers or other means of identification; the postmark in many instances being absent.

NOTE: STRICT COMPLIANCE WITH THE ABOVE REGULATIONS WILL BE REQUIRED. THE SAMPLE, TO BE A PROPER SAMPLE, MUST NOT BE LESS THAN ONE POUND OF FERTILIZER OR ONE-HALF POUND OF STOCK FEED, IN A TIN CAN OR BOTTLE, SEALED AND ADDRESSED TO THE COMMISSIONER OF AGRICULTURE. THE PURCHASER'S NAME AND ADDRESS, AND THE NAME OF THE SENDER, MUST ALSO BE ON THIS PACKAGE, THIS RULE APPLYING TO SPECIAL SAMPLES OF FERTILIZERS OR COMMERCIAL FEEDING STUFF, DRAWN AS DIRECTED.

IF MORE THAN ONE SAMPLE IS SENT REPRESENTING DIFFERENT BRANDS THE SAMPLES MUST BE NUMBERED SO AS TO IDENTIFY THEM. ALL THIS SHOULD BE DONE IN THE PRESENCE OF THE WITNESSES, AND THE PACKAGE SEALED AND MAILED OR EXPRESSED BY A DISINTERESTED PERSON.

NOTE: The tags off the sacks with the guaranteed anaylses and stamps, and names of manufacturers should be retained by the purchaser, to compare with the certificate of analysis when received and NOT SENT TO THIS OFFICE.

Raw Phosphates.—Ground raw phosphate rock—hard or soft—contains phosphoric acid, more or less available, hence is classed a fertilizer, when sold to consumers for fertilizing purposes, under Section 11 of the law; and is required to be guaranteed and stamped as required by Section 3; listed and guaranteed under oath, as required by Section 5, and the inspection fee paid previous to sale as provided by Section 6.

Lime is not classed as a fertilizer. It is not required to be sold under guarantee, nor the inspection fee paid; hence is not subject to free analysis by the State Laboratory.

The following form letter for transmitting special samples of fertilizers or feeding stuffs is adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

FORM FOR TRANSMITTING SAMPLES OF COMMERCIAL FERTILIZER OR COMMERCIAL FEEDING STUFF.

..........................Fla., ...192....

Hon. W. A. McRae,
Commissioner of Agriculture.
Tallahassee, Florida.

Dear Sir:—

I send you today by mail (or express) a sample of

....
(Indicate Fertilizer, Cotton Seed Meal or Feed Stuff.)

for analysis by the State Chemist.

This sample is taken from a lot of....packages, each bearing the guarantee tag and stamp required by law, purchased from a registered dealer, on the.......day of ...., 192..., and delivered on or about the...... day of....................., 192....

This sample was drawn from........packages in the presence of two witnesses, this day.

The guarantee tags and stamps off the .... packages sampled are retaind by the purchaser.

This sample is sent by me, one of the witnesses, for Mr. ...., the purchaser.

Yours truly,

....

OBJECT OF THE LAWS.

The object of the Fertilizer and Stock Feed Laws is: First, to protect the consumer from fraud, false representations by illegitimate dealers who have not complied with the law, nor filed their guaranteed analysis under oath, and who have not paid their inspection tax fixed by law.

Second, to protect the lawful dealer who has fully complied with the law by filing his guarantee under oath, and has paid his inspection fee, and who has placed upon each bag or other package a guarantee tag showing the minimum percentage of valuable ingredients in the fertilizer or feed stuffs, as provided by the law.

NOTE: These regulations are adopted to conform with the decision of the Supreme Court of Florida of May 12, 1917, as follows:

"The terms of the statute in giving the special right of action to 'any person purchasing' fertilizer clearly contemplates that the test shall be made with at least some degree of promptness after the delivery of the fertilizer, and that more than one sample shall be taken when the quantity of fertilizer purchased makes it expedient to have plural samples to secure a fair test."

SPECIAL SAMPLES.

Florida is the only state in the Union that provides for the "special sample," drawn by the consumer or purchaser, UNDER PROPER RULES AND REGULATIONS FIXED BY LAW,—to be sent to the Commissioner of Agriculture for analysis free of cost. Any person who has purchased fertilizers or feeds FOR HIS OWN USE MAY DRAW A SAMPLE OF THE SAME, ACCORDING TO LAW AND REGULATIONS, and have the same analyzed by the State Chemist free of cost. In case of adulteration or deficiency the purchaser can, on establishing the fact, receive double the cost demanded for the goods.

The law requires the "special samples" to be drawn in a manner to prevent the submission of spurious samples. Rules and regulations are published in every Quarterly Bulletin for drawing and transmitting "special samples."

This special sample has been a most potent factor in enforcing the law and discouraging the sale of adulterated or misbranded goods.

WATER ANALYSIS.

The State Laboratory will analyze samples of water from public-owned water supplies, municipal plants, etc., owned and operated by the city or town, when accompanied by the certificate of the mayor, or other city officer, that the water is furnished the public by the city or town.

It will not analyze water for individuals or corporations selling water to the public, water companies, ice companies, mineral springs, health resorts, etc., maintained for profit. Such samples should be sent to a commercial laboratory.

The State Laboratory does not make bacteriological examinations for disease germs. Such examinations are made by the State Board of Health at Jacksonville, Fla., which has entire charge of the public health.

We do not make a sanitary analysis. We determine the total dissolved solids in the sample quantitatively, and report them as parts per 1,000,000, naming the principal ingredients in the order of their predominance qualitatively. We find Calcium Carbonate (lime), Sodium Chloride (salt), Magnesium Sulphate (epsom salts), Silica (sand), and Iron, is the general order of their predominance, though on the coast, where the total dissolved solids amounts to 5,000 or more parts per 1,000,000, Sodium Chloride (salt) is the predominant substance.

From a knowledge of the chemical analysis of a water, unaccompanied by any further information, no conclusion as to the potability and healthfulness of the water can be deduced.

Therefore, we require the following information to be given in regard to the source of the water:

(1). The source of the water: spring, lake, river, driven well, dug well, bored well, artesian well or flowing well; and also the depth of the water surface below the top of the soil, and in cased wells, the depth of the casing.

(2). The locality of the source of the water; town, city or village; or the section, township and range.

No samples of water will be analyzed unless the name and address of the sender is on the package for identification.

WE REQUIRE TWO GALLONS OF EACH SAMPLE OF WATER IN A NEW JUG, STOPPED WITH A NEW CORK, AND SENT BY PREPAID EXPRESS. We will not accept any sample of water for analysis not in a new jug. Vessels previously used for other purposes are never properly cleaned for sending samples of water for analysis. Corks, once used for other substances (molasses, vinegar, whiskey, kerosene, etc.) are never properly cleaned.

NOTE: We find the waters of the State — springs, wells, driven wells and artesian wells — generally very pure and wholesome, with but little mineral impurity, and that such as is not harmful. Except in cases of gross carelessness, in allowing surface water to contaminate the well or spring, the waters of the State are pure and wholesome. The deep wells of the State are noted for their purity and healthfulness.

SOIL ANALYSIS.

Frequently samples of soil are sent in for analysis with a request to advise as to the best methods of fertilizing. There is but little information to be derived from a soil analysis that would be of benefit to farmers. So much depends on tilth, drainage, culture and other physical conditions, that an analysis made under laboratory conditions is of little value.

A chemical anaylsis of soil may indicate a very fertile soil, rich in plant food, while the facts are the soil is not productive. This is instanced by the rich sawgrass muck lands and river bottoms of the State, that are fertile chemically, but not productive until properly drained; also by the arid lands of the West, rich in the elements of plant food, but not productive until irrigated. Other soils, with less plant food, but on account of proper physical conditions, culture and tilth, are exceedingly productive.

The average of thousands of analyses of Florida soils made by the Florida Agricultural Experiment Station and the State Laboratory is as follows:

Nitrogen (per cent)	0.0413
Potash (per cent)	0.0091
Phosphoric Acid (per cent)	0.1635

This is a fair average of all of the Norfolk and Portsmouth soil series of the State, which comprise by far the greater portion of the State.

In this connection we quote from the report of the Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1908, as follows:

"*Soil Analysis of Little Value in Showing Fertilizer Requirements.*—The Chemical Department is called upon to answer hundreds of letters of inquiry in relation to agricultural chemical problems from people all over the State. In this connection it might be well to say that there is a widespread idea that the chemist can analyze a sample of soil and, without further knowledge of the conditions, write out a prescription of a fertilizer which will fill the needs of that particular soil.

"The Experiment Station does not analyze samples of soil to determine the fertilizer requirements. There is no chemical method known that will show reliably the availability of the plant food elements present in the soil, as this is a variable factor, influenced by the kind of crop, the type of soil, the climate and biological conditions; hence, we do not recommend this method of testing soil.

"The method recommended by the Indiana Station is the field fertilizer test or plot system, in which long, narrow strips of the field to be tested are measured off side by side. The crop is planted uniformly over each. Different fertilizers are applied to the different plots, every third or fourth one being left unfertilized. The produce from these plots is harvested separately and weighed. In this manner the farmer can tell what fertilizer is best suited for his needs. As climatic conditions may influence the yield with different fertilizers, it is best to carry on such tests for more than one year before drawing definite conclusions. There is positively no easier or shorter method of testing the soil that we feel safe in recommending.

"Soil can be greatly improved by an intelligent rotation of crops, the conservation of stable manures, and the use of some kind of commercial fertilizer. Farmers need have no fear that the proper application of commercial fertilizer will injure the land."

ANALYSIS OF FOODS AND DRUGS.

Samples of foods and drugs are drawn under special regulations as provided by law.

Application should be made to the Commissioner of Agriculture or State Chemist for the necessary blanks, instructions, etc., for drawing and transmitting samples of foods and drugs, including drinks of all kinds.

FOOD AND DRUG SAMPLES NOT DRAWN AND TRANSMITTED ACCORDING TO LAW WILL NOT BE ACCEPTED FOR ANALYSIS.

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

Citizens of the State interested in fertilizers, foods and drugs, and stock feed, can obtain, free of charge, the respective laws, including rules and regulations and standards, by applying to the Commissioner of Agriculture. Application for the Quarterly Bulletin of the State Department of Agriculture should also be made to the Commissioner of Agriculture, or State Chemist. The Bulletin of the Florida Agriculture Experiment Station can be had by application to the Director at Gainesville.

These regulations supersede and revoke all previous regulations governing the drawing and transmitting of samples of commercial fertilizer and commercial stock feed.

W. A. McRAE,
Commissioner of Agriculture.

February 10th, 1920.
Tallahassee, Fla.

NEW YORK WHOLESALE PRICES, CURRENT APRIL 1, 1920, FERTILIZER MATERIALS.

AMMONIATES.

Ammonia, sulph., bulk, f. o. b. works, per 100 lbs.	Nominal	
double bags, f. a. s. New York	7.30	@ 7.35
Tankage, 11 p. c. and 15 p. c. Chicago, ground	8.50	& 10
Tankage, 10 and 20 p. c., f. o. b. Chicago, ground	8.50	& 10
Tankage, 9 and 20 p. c., f. o. b. Chicago, ground	8.50	& 10
Tankage, concentrated, f. o. b. Chicago, 14 to 15 p. c.	——	@ 6.25
blood, f. o. b. Chicago	8.70	@ ——
Garbage, tankage, f. o. b. Chicago	4	& 10 & $1
Hoofmeal, f. o. b. Chicago, per unit	——	@ 7.00
Dried Blood, 12-13 p. c. ammonia, f. o. b. New York	8.75	@ ——
Tankage, New York	8.00	@ ——
Nitrate of Soda, per 100 lbs	3.85	@ 3.90

PHOSPHATES.

Acid, phosphate, basis 16%, bulk, per ton	19.00	@ ——
Southern ports	23.00	@ ——
Bones, rough, hard	30.00	@32.00
soft, steamed, unground	26.00	@27.00
ground, steamed, 1¼ p. c. ammonia and 60 p. c. bone phosphate	32.00	@ ——
do, 3 and 50 p. c.	47.00	@ ——
raw, ground, 4 p. c. ammonia and 50 p. c. bone phosphate	52.00	@ ——
Florida land pebble phosphate rock, 68 p. c., f. o. b. Tampa, Fla.	6.85	@ ——
Florida land pebble phosphate rock, 75 p. c., f. o. b. Tampa	10.50	@ ——
Florida high grade phosphate hard rock, 77 p. c., f. o. b. Florida ports	12.50	@ ——
Tennessee phosphate rock, f. o. b. Mt. Pleasant, domestic, 78@80 p. c., per ton	11.00	@11.50
75 p. c. guaranteed, per ton, 2,240 lbs.	9.75	@10.25
78 p. c., per ton, 2,240 lbs	11.00	@11.50

POTASHES.

American fertilizer, potash, in paper-lined cars, f. o. b. works, per unit	2.25	@	——
Muriate of potash, 80@85 per cent, K. C. L., bags, per unit	2.70	@	2.75
Sulphate of potash, 90@95 per cent, basis 90 per cent, in bags, per unit	4.00	@	——
First sorts potashes, per lb	15	@	20

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEAPORTS, APRIL 1, 1920.

MATERIAL	COMPOSITION				Price Per Ton
	Available Phosphoric Acid	Insoluble Phosphoric Acid	Potash	Ammonia	
Dissolved bone black	16	......	......	......	$32.00
High grade acid phosphate	16	......	......	......	25.00
Low grade acid phosphate	14	......	......	......	23.50
Hardwood ashes	......	......	3	......	30.00
Hardwood ashes	......	......	2	......	27.00
Cotton seed meal	2.5	......	1.5	7	83.00
Sheep manure	2	......	3.5	2.25	41.00
Goat manure	......	......	3	1.5	35.00
Ground tobacco stems	......	......	7.5	2.5	55.00
Steamed bone meal	8	14	......	3	65.00
Raw bone meal	5	17	......	4.5	70.00
Low grade tankage	4	8	......	6.5	68.00
Medium grade tankage	3	7	......	8	82.00
High grade tankage	1.5	3.5	......	10	99.00
Dried blood	......	......	......	14	146.00
Dried blood	......	......	......	16	160.00
Nitrate of soda	......	......	......	18	92.00
Sulphate of ammonia	......	......	......	25	135.00
Baled tobacco stems	......	......	......	......	40.00

Terms: 30 days net, or 5% discount for cash in 10 days.

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $3.50 per ton in excess of above prices.

STATE VALUATIONS

(Based on commercial value April 1, 1920, at Florida factories in ton lots for cash, f. o. b.)

Available Phosphoric Acid	7½c	a pound
Insoluble Phosphoric Acid	1c	a pound
Ammonia (or its equivalent in nitrogen)	35c	a pound
Potash (as actual potash, K2O)	20c	a pound

If calculated by units:

Available Phosphoric Acid	$1.50	per unit
Insoluble Phosphoric Acid	0.20	per unit
Ammonia (or its equivalent in nitrogen)	7.00	per unit
Potash	4.00	per unit

With a uniform allowance of $3.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent in a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this, take for example a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent x	$1.50 =	$ 9.33
Insoluble Phosphoric Acid	1.50 per cent x	.20 =	.30
Ammonia	3.42 per cent x	7.00 =	23.94
Potash	3.23 per cent x	4.00 =	12.92
Mixing and bagging			3.50
Commercial value at seaports			$49.99

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent x	$1.50 =	$12.00
Ammonia	2 per cent x	7.00 =	14.00
Potash	2 per cent x	4.00 =	8.00
Mixing and bagging			3.50
Commercial value at seaports			$37.50

The valuations and market prices in preceding illustrations are based on market prices for one-ton lots.

STATE VALUES.

It is not intended by the "State valuations" to fix the price or commercial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertilizers or commercial stock feed at the date of issuing a Bulletin, or the opening of the "season." They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked, "What is Smith's Fruit and Vine worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid and potash may be determined and the inquirer informed what the cost of the necessary materials to compound a ton of goods similar to "Smith's Fruit and Vine" would be, using none but accepted and well-known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer or feed, can be **purchased for cash in ton lots at Florida seaports.**

These price lists published in this report, with the "State values," April 1, 1920, are nominal.

FACTORS FOR CONVERSION.

To Convert—

Ammonia into nitrogen, multiply by	0.824
Ammonia into protein, multiply by	5.15
Nitrogen into ammonia, multiply by	1.214
Nitrate of soda into nitrogen, multiply by	0.1647
Nitrogen into protein, multiply by	6.25
Bone phosphate into phosphoric acid, multiply by	0.458
Phosphoric acid into bone phosphate, multiply by	2.184
Muriate of potash into actual potash, multiply by	0.632
Actual potash into muriate of potash, multiply by	1.583
Sulphate of potash into actual potash, multiply by	0.541
Actual potash into sulphate of potash, multiply by	1.85
Nitrate of potash into nitrogen, multiply by	0.139
Carbonate of potash into actual potash, multiply	0.681
Actual potash into carbonate of potash, multiply	1.466
Chlorine, in "kainit," multiply potash (K_2O) by	2.33

For instance, you buy 95 per cent. nitrate of soda, and want to know how much nitrogen is in it, multiply 95 per cent. by 0.1647, you will get 15.65 per cent. nitrogen; you want to know how much ammonia this nitrogen is equivalent to, then multiply 15.65 per cent. by 1.214, and you get 18.90 per cent., the equivalent in ammonia.

Or, to convert 90 per cent. carbonate of potash into actual potash (K_2O), multiply 90 by 0.681, equals 61.29 per cent. actual potash (K_2O).

COMPOSITION OF FERTILIZER MATERIALS.

NITROGENOUS MATERIALS.

	Pounds Per Hundred.		
	Ammonia.	Total Phosphoric Acid.	Potash.
Nitrate of Soda..........	17 to 19	....	....
Sulphate of Ammonia....	21 to 26	....	....
Dried Blood	12 to 17	....	....
Concentrated Tankage...	12 to 15	1 to 4	....
Bone Tankage	6 to 9	10 to 15	....
Dried Fish Scrap........	6 to 11	3 to 8	....
Cotton Seed Meal........	7 to 10	2 to 3	1 to 2
Hoof Meal	13 to 17	1 to 2	1 to 2

PHOSPHATE MATERIALS.

	Pounds per Hundred.		
	Ammonia.	Available Phos. Acid.	Insoluble Phos. Acid.
Florida Pebble Phosphate.	....	....	26 to 32
Florida Rock Phosphate..	....	....	30 to 35
Florida Super Phosphate.	....	14 to 45	1 to 3
Ground Bone	3 to 6	5 to 8	15 to 17
Steamed Bone	1 to 4	6 to 9	10 to 20
Dissolved Bone	2 to 4	13 to 15	2 to 3

POTASH MATERIALS AND FARM MANURES.

	Pounds Per Hundred.			
	Actual Potash.	Am'onia.	Phos. Acid.	Lime.
Muriate of Potash......	50 to 62	....	....	....
Sulphate of Potash.....	48 to 52	....	....	....
Carbonate of Potash....	55 to 60	....	....	....
Nitrate of Potash.......	40 to 44	12 to 16	....	....
Dbl. Sul. of Pot. and Mag.	25 to 30	....	....	....
Kainit	12 to 13	....	....	....
Sylvinit	16 to 20	....	....	....
Cotton Seed Hull Ashes..	15 to 30	....	7 to 9	10
Wood Ashes, unleached.	2 to 8	....	1 to 2	....
Wood Ashes, leached....	0 to 2	....	1 to 1½	35 to 40
Tobacco Stems	3 to 9	2 to 4	....	3
Cow Manure (fresh).....	0.45	0.50	0.30	0.30
Horse Manure (fresh)...	0.50	0.60	0.25	0.30
Sheep Manure (fresh)...	0.60	1.00	0.35	0.35
Hog Manure (fresh).....	0.30	1.00	0.40	0.10
Hen Dung (fresh)......	0.85	1.75	1.25	0.25
Mixed Stable Manure...	0.50	0.75	0.50	0.70

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS.

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Maiden Cane Hay.....	28.60	11.60	42.40	2.60	4.20
Natal Grass Hay......	36.70	7.40	39.20	1.80	5.00
Para Grass Hay......	31.20	8.00	45.70	1.60	6.20
Rhodes Grass Hay....	41.10	7.70	36.80	1.30	6.60
Beggarweed Hay......	24.30	21.60	35.10	4.10	4.00
Kudzu Vine Hay......	32.30	15.90	33.00	1.60	6.80
Cow Pea Hay.........	20.50	13.00	45.90	4.20	7.50
Velvet Bean Hay.....	29.70	14.70	41.00	1.70	5.70
Velvet Beans.........	7.00	21.00	53.10	5.40	3.60
Velvet Bean Hulls....	27.00	7.50	44.60	1.60	4.30
Velvet Beans and Hulls	10.70	19.40	50.60	4.50	3.50
Cow Peas............	4.10	20.80	55.70	1.40	3.20
Soy Bean Meal........	4.50	48.40	27.50	6.40	4.40
Peanut Vine Meal.....	29.60	9.90	38.40	6,30	6.60
Cotton Seed..........	23.20	18.40	24.70	19.90	3.50
Cotton Seed Hulls....	44.40	4.00	36.60	2.00	2.60
Bright Cotton S'd Meal	9.40	38.62	28.60	7.80	5.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Dark Cotton Seed Meal	20.00	23.15	37.10	5.50	5.00
Corn Grain..........	2.10	10.50	69.60	5.40	1.50
Corn Meal...........	1.90	9.70	68.70	3.80	1.40
Hominy Feed.........	4.00	10.50	65.30	7.80	2.60
Corn and Cob Meal....	5.80	7.50	70.80	3.10	1.20
Ground Corn Shucks..	30.20	2.80	54.60	0.60	1.90
Ground Corn Cobs....	30.00	3.00	56.60	0.70	1.60
Equal parts, Corn in Shucks & V'lv't Beans	16.03	12.56	53.71	2.32	4.33
Oats (grain)	9.50	11.80	59.70	5.00	3.00
Rice (grain)	0.20	7.40	79.20	0.40	0.40
Rice Bran............	9.50	12.10	49.90	8.80	10.00
Wheat (grain)	1.80	11.90	71.90	2.10	1.80
Wheat Bran..........	9.00	15.40	53.90	4.00	5.80
Wheat Middlings	5.40	15.40	59.40	4.10	3.20
Wheat Mixed Feed....	7.80	16.90	54.40	4.80	5.30
Wheat Ship Stuff.....	5.60	14.60	59.80	5.00	3.70
Dry Jap Sugar Cane..	26.20	2.30	62.60	1.50	2.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract)	Fat.	Ash.
Peanut Hulls	56.60	7.30	18.90	2.60	5.50
Peanut, with Hulls.	16.40	20.40	16.40	36.20	4.10
Peanut Kernel	2.60	26.40	17.50	44.90	2.20
Peanut Meal (without Hulls)	5.10	47.60	23.70	8.00	4.90
Peanut Feed (including Hulls)	23.40	28.40	27.00	11.00	5.50

COMMERCIAL STATE VALUES OF FEED STUFF FOR 1920.

For the season 1920 the following "State values" are fixed as a guide to purchasers, quotation April 1st.

These values are based on the current prices of corn, which has been chosen as a standard in fixing the commercial values, the price of corn, to a large extent, governing the price of other feeds, pork, beef, etc.:

$3.25 per sack of 100 lbs., $1.82 per bu., 56 lbs.

To find the commercial State value, multiply the percentages by the price per unit.

A unit being 20 pounds (1%) of a ton.

Protein, 6.8c per pound	$1.36 per unit
Starch and sugar, 3.1c per pound	.62 per unit
Fat, 6.8c per pound	1.36 per unit

EXAMPLE NO. 1.

Corn and Oats, Equal Parts:

Protein	11.15 x 1.36,	$15.16
Starch and Sugar	64.65 x .62,	40.08
Fat	5.20 x 1.36,	7.07
State value, per ton		$62.31

EXAMPLE NO. 2.

Corn:

Protein	10.50 x 1.36,	$14.28
Starch and Sugar	69.60 x .62,	43.15
Fat	5.40 x 1.36,	7.34
State value, per ton		$64.77

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

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The form letter for transmitting special samples of fertilizers or feeding stuffs as shown in the rules and regulations is adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. SPECIAL FERTILIZER ANALYSES, 1920. GORDON HART, Assistant Chemist.
Samples Taken by Purchaser Under Section 9, Act Approved May 22, 1901.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer No. 1..........	5064	12.86	8.25	3.32	11.57	6.35	2.24	Ed Cameron, Sanford.
Mixed Fertilizer No. 2..........	5065	10.44	2.25	2.42	10.67	5.76	3.80	J. R. Murphy, Sanford.
Mixed Fertilizer	5066	11.38	7.92	0.35	8.27	3.84	5.52	A. S. Hawkins, Sanford.
Mixed Fertilizer	5067	12.68	5.80	0.27	6.07	5.54	3.91	G. S. Cain, Sanford.
Goat Manure No. 3.............	5068	15.31	1.45	0.25	1.70	1.79	3.18	Joe Fernandez, Sanford.
Goat Manure	5069	17.60	0.80	0.07	0.87	2.64	3.46	C. Bell, Sanford.
Blood and Bone No. 1...........	5070	10.71	4.25	1.80	6.05	11.79	.....	B. E. Squires, Sanford.
Raw Ground Bone No. 2........	5071	7.43	8.48	16.12	24.60	6.17	.....	C. Bell, Sanford.

Tankage No. 2	5072	9.10	7.77	4.60	12.37	10.62	.....	Joseph Cameron, Sanford.
Tankage No. 3	5073	13.74	7.49	5.02	12.51	9.83	.....	Ed Cameron, Sanford.
Tankage No. 1	5074	5.98	3.57	2.50	6.07	11.70	.....	J. F. McClelland, Sanford.
Tankage No. 1	5075	6.46	4.87	5.00	9.87	9.60	.....	J. R. Murphy, Sanford.
Fertilizer	5076	12.75	3.95	2.20	6.15	8.89	4.92	Borax 0.14%. T. P. Drake, Sanford.
Fertilizer No. 1	5078	10.34	10.65	1.45	12.10	4.15	4.66	Manatee Fruit Co., Palmetto.
Fertilizer No. 2	5079	9.86	10.73	1.47	12.20	4.20	4.42	Manatee Fruit Co., Palmetto.
Fertilizer No. 3	5080	10.26	10.28	1.82	12.10	4.00	5.78	Manatee Fruit Co., Palmetto.
Fertilizer	5081	9.84	6.58	1.67	8.25	4.80	5.58	Gordon & Colbert, Ft. Myers.
Fertilizer	5082	8.27	5.73	2.42	8.15	3.73	3.34	W. R. Haygood, Oxford.
Complete Orange Fertilizer	5083	4.08	6.60	13.20	19.80	4.04	4.64	H. O. Juve, Oslo.
Fertilizer	5084	7.07	6.43	1.82	8.25	4.85	2.36	Gene Shannahan, Ft. Myers.
Fertilizer	5085	9.53	8.65	1.05	9.70	3.52	5.38	H. H. Tussy, Ft. Myers.
Fertilizer	5086	8.01	8.28	0.62	8.90	3.06	2.72	Hubbell Fruit Co., Palmetto.
Mixed Fertilizer	5087	11,77	5.74	4.13	9.87	5.74	6.08	Mike Stoinoff, Sanford.
Mixed Fertilizer	5088	9.28	4.75	0.77	5.52	5.63	3.80	John Bolly, Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer................	5089	10.28	6.42	0.85	7.27	3.85	5.82	W. H. Allen, Sanford.
Mixed Fertilizer No. 1..........	5090	9.32	4.40	0.82	5.22	5.85	5.42	Henry Witte, Sanford.
Mixed Fertilizer No. 1..........	5091	10.83	5.53	1.97	7.50	4.51	3.54	Fish & Fish, Sanford.
Mixed Fertilizer No. 2..........	5092	6.99	7.23	1.97	9.20	4.53	3.36	S. H. Buchanan, Sanford.
Mixed Fertilizer No. 1..........	5093	5.00	5.70	2.27	7.97	5.50	5.56	S. H. Buchanan, Sanford.
Mixed Fertilizer No. 2..........	5094	8.38	6.35	1.67	8.02	4.63	9.18	J. M. Oglesby, Sanford.
Mixed Fertilizer (Special) No. 1.	5095	11.21	8.30	0.75	9.05	5.60	5.40	J. M. Oglesby, Sanford.
Goat Manure No. 4..............	5096	14.33	0.72	0.05	0.77	2.25	2.88	Fish & Fish, Sanford.
Raw Ground Bone No. 3........	5097	6.80	11.53	14.37	25.90	5.71	.....	Fish & Fish, Sanford.
Raw Bone Meal................	5098	6.06	12.35	15.45	27.80	5.92	.....	L. A. Brumley, Sanford.

Tankage No. 2	5099	8.53	10.30	1.75	12.05	8.85	.....	Fish & Fish, Sanford.
Blood and Bone Tankage No. 3	5100	6.48	7.05	2.65	9.70	10.69	.....	J. R. Murphy, Sanford.
Kainit	5101	0.47	.....	.....	.....	.....	14.62	H. H. Chappell, Sanford.
Castor Pomace No. 2	5102	7.74	.....	.....	.....	9.61	.....	Henry Witte, Sanford.
"Orange Fertilizer"	5104	12.70	6.13	3.77	9.90	2.52	5.24	Ed M. Earnest, Palatka.
Fertilizer No. 1	5105	3.95	4.90	9.45	14.35	3.90	3.60	Standard Growers Exchange, Ft. Myers.
Fertilizer No. 2	5106	3.30	5.04	13.76	18.80	4.54	3.54	Standard Growers Exchange, Ft. Myers.
Fertilizer	5107	4.84	8.55	2.75	11.30	4.89	5.12	C. J. Stubbs, Ft. Myers.
Fertilizer	5108	5.98	6.30	5.70	12.00	5.38	6.46	Hill Crest Grove Co., St. Leo.
Fertilizer	5109	9.56	6.75	0.55	7.30	3.75	4.42	W. H. Towles, Ft. Myers.
Fertilizer No. 2	5110	10.04	6.55	0.65	7.20	3.38	5.10	W. H. Towles, Ft. Myers.
Fertilizer	5111	7.57	8.33	0.22	8.55	3.30	3.68	Ben Faulkner, Ft. Myers.
Bone Meal	5112	9.56	7.30	9.05	16.35	9.04	.....	DeSoto Fruit Co., Nocatee.
Fertilizer	5113	14.27	4.95	7.25	12.20	3.95	5.14	Geo. Kingston, Ft. Myers.
Fertilizer	5114	8.27	6.95	2.70	9.65	3.64	4.64	J. R. Springer, Orlando.
Fertilizer	5115	3.50	7.70	0.05	7.75	4.05	4.63	C. J. Stubbs, Ft. Myers.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5116	10.83	6.20	0.45	6.65	5.63	4.88	J. E. Esteridge, Sanford.
Celery Fertilizer No. 1..........	5117	8.76	5.80	1.87	7.67	4.76	6.48	J. E. Pace, Sanford.
Lettuce Fertilizer No. 2.........	5118	8.27	5.95	1.20	7.15	5.76	5.78	J. E. Pace, Sanford.
Mixed Fertilizer (Lettuce) No. 1.	5119	9.11	8.67	0.85	9.52	4.74	3.18	Smith & Dutton, Sanford.
Mixed Fertilizer No. 2..........	5120	5.72	5.35	2.85	8.20	5.70	6.00	Smith & Dutton, Sanford.
Mixed Fertilizer (Vegetable) No. 3	5121	5.34	7.53	1.47	9.00	4.12	0.24	Smith & Dutton, Sanford.
Special Mixed Fertilizer No. 4..	5122	10.36	5.83	2.82	8.65	6.68	3.18	Smith & Dutton, Sanford.
Special Lettuce Fertilizer No. 5..	5123	11.33	6.20	4.32	10.52	6.13	3.40	Smith & Dutton, Sanford.
Mixed Fertilizer...............	5124	7.35	4.65	3.55	8.20	7.03	3.92	C. C. Sperring, Sanford.
Mixed Fertilizer No. 1..........	5125	5.76	6.00	0.80	6.80	5.67	1.40	G. C. McDougal, Sanford.

Mixed Fertilizer	5126	6.56	6.38	1.80	8.18	4.85	3.12	M. Fleischer, Sanford.
Mixed Fertilizer	5127	11.95	9.00	2.40	11.40	4.70	2.64	W. H. Peters, Sanford.
Mixed Fertilizer No. 2..........	5128	11.03	6.65	2.30	8.95	4.81	3.34	W. W. Miller, Sanford.
Mixed Fertilizer	5129	12.89	6.78	4.42	11.20	4.77	3.00	L. S. Robb, Sanford.
Mixed Fertilizer No. 1..........	5130	11.44	5.87	3.50	9.37	4.75	3.32	Carl Carlson, Sanford.
Blood and Bone No. 3...........	5131	9.72	5.43	9.12	14.55	8.40	.....	J. E. Pace, Sanford.
Tankage No. 2..................	5132	8.91	6.29	5.65	11.94	9.23	.....	G. C. McDougal, Sanford.
Tankage No. 1..................	5133	7.65	4.10	9.25	13.35	9.15	.....	W. W. Miller, Sanford.
Kainit No. 2....................	5134	1.36	.....	.....	.....	.....	12.80	Carl Carlson, Sanford.
Kainit No. 3....................	5135	0.57	.....	.....	.....	.....	15.74	W. W. Miller, Sanford.
Mixed Fertilizer	5136	7.87	6.93	1.20	8.13	4.75	3.12	C. L. Byrd, Sanford.
Mixed Fertilizer	5137	13.71	6.25	4.15	10.40	4.82	2.94	H. A. Loppin, Sanford.
Mixed Fertilizer No. 1..........	5138	8.68	5.93	2.45	8.38	5.57	5.36	R. L. Greer, Sanford.
Mixed Fertilizer No. 2..........	5139	11.83	7.50	3.15	10.65	4.85	3.30	R. L. Greer, Sanford.
Mixed Fertilizer	5140	14.93	6.43	3.62	10.05	4.44	3.08	L. B. Mann and C. E. Henry, Sanford.
Mixed Fertilizer	5141	4.21	5.30	2.75	8.05	5.34	5.40	B. E. Lake, Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5142	13.53	6.56	3.67	10.23	4.50	3.12	J. F. Mann and C. E. Henry, Sanford.
"Nitrapo" (Kainit)	5143	1.17	.....	.....	.....	.....	16.90	Borax 0.68%. L. A. Brumley, Sanford.
Sheep Manure	5144	27.90	8.73	0.17	8.90	2.16	2.38	J. R. Murphy, Sanford.
Tankage No. 1	5145	8.35	4.75	8.00	12.75	10.02	.....	O. J. Pope, Sanford.
Blood and Bone Fertilizer No. 1	5146	7.26	3.06	5.62	8.68	11.02	.....	Joseph Comeron, Sanford.
Tankage No. 2	5147	8.58	4.31	8.32	12.63	9.53	.....	C. B. Bell, Sanford.
Sheep Manure No. 3	5148	7.80	0.83	0.70	1.53	3.64	2.18	C. B. Bell, Sanford.
Goat Manure No. 2	5149	11.51	0.76	0.27	1.03	3.92	2.24	E. M. Galloway, Sanford.
Mixed Fertilizer No. 2	5150	8.74	7.15	1.60	8.75	4.47	3.00	Joseph Cameron, Sanford.
Mixed Fertilizer No. 2	5151	8.50	5.65	3.20	8.85	4.46	3.62	O. J. Pope, Sanford.

Mixed Fertilizer	5152	7.30	7.83	0.70	8.53	4.62	2.98	R. T. Wynne, Sanford.
Mixed Fertilizer	5153	5.74	5.76	0.47	6.23	5.91	2.96	H. B. Lewis, Sanford.
Mixed Fertilizer	5154	9.53	4.93	2.77	7.70	6.10	4.34	W. A. Raynor, Sanford.
Mixed Fertilizer No. 1..........	5155	6.56	3.85	4.20	8.05	7.22	3.94	Smith, Connelly & Lake, Sanford.
Mixed Fertilizer No. 2..........	5156	8.53	6.75	1.85	8.60	6.55	3.64	Smith, Connelly & Lake; Sanford.
Mixed Fertilizer No. 1..........	5157	13.50	6.55	2.00	8.55	4.44	3.46	E. M. Galloway, Sanford.
Mixed Fertilizer No. 1..........	5158	10.85	5.05	2.90	7.95	5.90	3.96	C. B. Bell, Sanford.
Mixed Fertilizer No. 1..........	5159	8.01	6.08	2.25	8.33	4.97	2.56	Borax 0.15%. J. M. Brown, Sanford.
Fertilizer	5160	9.54	6.40	5.95	12.35	3.06	5.07	M. W. Jenkins, Sanford.
Fertilizer	5161	6.47	7.65	2.90	10.55	3.58	3.66	J. H. Sadler, Oakland.
Fertilizer No. 1.................	5162	10.93	6.65	3.85	10.50	5.35	5.32	E. P. Fripp, Miami.
Fertilizer No. 2.................	5163	9.80	7.00	3.60	10.60	5.04	5.40	E. P. Fripp, Miami.
Nitrate of Soda..................	5164	0.84	.....	.....	.....	19.58	.....	L. B. Skinner, Dunedin.
Cotton Seed Meal No. 1..........	5165	.....	.....	.....	.....	7.75	.....	A. L. Wilson Co., Quincy.
Cotton Seed Meal No. 2..........	5166	.....	.....	.....	.....	8.15	.....	A. L. Wilson Co., Quincy.
Goulding's Gem Guano..........	5167	6.56	7.90	2.70	10.60	3.03	2.28	A. L. Wilson Co., Quincy.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued.)

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	5168	9.98	6.83	1.67	8.50	5.34	0.56	E. M. Willis, Williston.
"Nitrapo"	5169	1.80	.....	.....	.....	18.10	14.12	Borax 0.41%. Rex Packard, Sanford.
"Nitrapo"	5170	3.20	.....	.....	.....	17.28	18.05	Borax 0.55%. Rossetter & Son, Sanford.
"Nitrapo"	5171	2.90	.....	.....	.....	17.40	18.95	Borax 0.72%. L. A. Brumley, Sanford.
"Nitrapo"	5172	1.70	.....	.....	.....	18.30	12.90	Borax 0.46%. Ben Fish and Joe Cameron, Sanford.
Fertilizer No. 1	5173	2.93	11.40	1.05	12.45	7.54	.....	L. W. Tilden, Tildenville.
Fertilizer No. 2	5174	3.69	4.20	8.05	12.25	9.91	.....	L. W. Tilden, Tildenville.
Fertilizer No. 3	5175	3.18	6.17	3.50	9.67	11.38	.....	L. W. Tilden, Tildenville.
Fertilizer No. 4	5176	6.09	1.08	.....	1.08	8.57	1.00	L. W. Tilden, Tildenville.
Fertilizer No. 5	5177	5.09	6.63	4.35	10.98	8.88	1.06	L. W. Tilden, Tildenville.

Fertilizer No. 1	5178	11.84	8.28	3.10	11.38	4.58	4.56	Sol Wittenstein, Orlando.
Fertilizer No. 1-A	5179	8.65	2.28	7.60	9.88	4.47	4.72	Standard Growers Exchange, Orlando.
Fertilizer No. 2	5180	8.90	11.28	0.82	12.10	4.50	2.14	Sol Wittenstein, Orlando.
Fertilizer No. 1	5181	0.95	.....	.....	.....	19.50	.....	L. W. Tilden, Tildenville.
Fertilizer No. 2	5182	9.93	0.90	.....	0.90	8.00	0.70	L. W. Tilden, Tildenville.
Fertilizer No. 3	5183	5.80	8.65	3.70	12.35	6.57	1.18	L. W. Tilden, Tildenville.
Fertilizer No. 4	5184	5.97	.....	.....	.....	.....	43.34	L. W. Tilden, Tildenville.
Fertilizer No. 5	5185	10.09	6.70	1.40	8.10	7.45	3.26	L. W. Tilden, Tildenville.
Fertilizer	5186	5.16	3.65	4.00	7.65	9.68	0.52	J. H. Sadler, Orlando.
Fertilizer A	5187	7.06	8.38	1.67	10.05	4.69	2.50	J. P. Cowburn, Crescent City.
Fertilizer B	5188	9.17	9.00	1.10	10.10	5.43	2.64	J. P. Cowburn, Crescent City.
Fertilizer	5189	6.47	7.78	6.70	14.48	6.05	2.32	A. W. Hurley, Orlando.
Fertilizer	5190	2.11	.....	.....	.....	.....	24.98	G. L. Huxtable, Winter Garden.
Fertilizer	5191	4.56	6.41	7.87	14.28	9.71	.....	L. W. Tilden, Tildenville.
Fertilizer	5192	8.61	8.35	0.35	8.70	6.97	4.04	L. W. Tilden, Tildenville.
Mixed Fertilizer	5193	10.82	6.10	1.35	7.45	7.08	3.24	Henry Nickel, Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued).

NAME, OR BRAND	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O.)	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5194	8.33	5.18	2.25	7.43	5.94	3.92	G. C. Chamberlain, Sanford.
Mixed Fertilizer	5195	13.92	5.20	4.80	10.00	5.62	5.58	Seminole Farms, Inc., Sanford.
Mixed Fertilizer	5196	9.39	6.78	2.80	9.58	4.87	2.44	G. C. Chamberlain, Sanford.
Mixed Fertilizer No. 2..........	5197	13.60	6.21	3.62	9.83	5.59	5.54	Henry Nickel, Sanford.
Tankage No. 3..................	5198	7.45	4.00	6.75	10.75	10.20	.....	G. C. Chamberlain, Sanford.
Fertilizer	5199	14.61	6.60	3.80	10.40	3.54	1.38	Gordon & Colbert, Ft. Myers.
Fertilizer	5200	7.38	8.93	6.17	15.10	6.37	2.24	Nelson Henchen, Ft. Myers.
Fertilizer	5201	12.25	9.50	0.25	9.75	2.40	2.98	G. W. Rhodes, Woodville.
Tankage No. 1..................	5202	7.75	5.40	11.90	17.30	7.73	.....	R. O. Meriwether, Sanford.
Mixed Fertilizer	5203	6.30	7.83	1.00	8.83	4.92	3.14	C. B. Miller, Sanford.

Mixed Fertilizer No. 1	5204	9.78	2.25	5.20	7.45	6.15	4.54	C. M. Stowe, Sanford.
Tankage No. 2	5205	7.75	3.68	6.15	9.93	9.79	.....	R. O. Meriwether, Sanford.
Mixed Fertilizer	5206	8.56	6.15	0.95	7.10	5.92	4.88	J. M. Hunter, Sanford.
Tankage No. 2	5207	6.97	4.98	9.62	14.60	9.12	.....	C. M. Stowe, Sanford.
Mixed Fertilizer	5208	6.70	5.33	2.00	7.33	5.40	6.02	W. J. Thigpen, Sanford.
Mixed Fertilizer	5209	10.41	6.93	3.17	10.10	6.33	5.40	M. Stoinoff, Sanford.
Tankage No. 1	5210	5.14	3.38	6.00	9.38	11.34	.....	L. W. Wallace, Sanford.
Mixed Fertilizer No. 2	5211	3.65	5.63	0.60	6.23	5.31	5.20	L. W. Wallace, Sanford.
Bone Meal No. 1	5212	6.56	6.85	11.20	18.05	5.77	.....	L. A. Brumley, Sanford.
Tankage No. 2	5213	6.69	4.18	9.07	13.25	7.65	.....	L. A. Brumley, Sanford.
Mixed Fertilizer	5214	7.42	5.66	2.77	8.43	4.54	5.56	R. B. Monroe, Sanford.
Mixed Fertilizer	5215	6.35	6.33	2.35	8.68	5.95	3.42	R. B. Monroe, Sanford.
Tankage	5216	6.72	4.28	6.30	10.58	10.01	.....	R. O. Meriwether, Sanford.
Mixed Fertilizer	5217	5.90	5.13	3.07	8.20	5.59	4.34	John Meisch, Sanford.
Mixed Fertilizer	5218	5.68	11.75	2.65	14.40	5.50	4.36	Mrs. A. Dorner, Sanford.
Mixed Fertilizer	5219	6.38	7.00	0.50	7.50	5.68	2.82	I. E. Esteridge, Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued).

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid			Ammonia.	Potash K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5220	7.70	6.18	0.90	7.08	5.96	5.16	Rex Packard, Sanford.
Mixed Fertilizer No. 1..........	5221	5.81	6.50	1.40	7.90	4.48	5.41	Partin Bros., Sanford.
Mixed Fertilizer No. 2..........	5222	8.31	7.50	1.75	9.25	5.17	3.12	Partin Bros., Sanford.
Tankage No. 1..................	5223	6.89	4.40	11.10	15.50	7.78	.....	A. R. Meriwether, Sanford.
Tankage No. 2..................	5224	8.38	2.48	6.70	9.18	9.85	.....	A. R. Meriwether, Sanford.
Fish Scrap	5225	18.31	9.35	4.25	13.60	4.50	.....	H. H. Chappell, Sanford.
Mixed Fertilizer	5226	7.77	5.73	1.20	6.93	6.92	2.90	Lawton Bros., Sanford.
Mixed Fertilizer	5227	7.97	6.10	0.45	6.55	5.78	3.54	J. J. Bolly, Sanford.
Tankage	5228	7.99	5.28	8.00	13.28	7.19	.....	W. S. Hand, Sanford.
Mixed Fertilizer	5229	10.30	6.08	4.45	10.53	4.60	3.38	A. Van Ness, Sanford.

Mixed Fertilizer	5230	8.18	6.98	0.50	7.48	5.70	3.10	Rossetter & Son, Sanford.
Mixed Fertilizer No. 1..........	5231	10.70	8.85	2.20	11.05	5.48	2.56	J. F. McClelland, Sanford.
Mixed Fertilizer No. 2..........	5232	5.13	3.65	3.80	7.45	6.79	4.66	J. F. McClelland, Sanford.
Tankage No. 3....................	5233	8.70	3.95	6.65	10.60	10.56	.....	J. F. McClelland, Sanford.
Blood and Bone Tankage........	5234	6.50	3.30	6.30	9.60	10.50	.....	Mrs. A. Dorner, Sanford.
Mixed Fertilizer	5235	7.89	6.63	1.00	7.63	5.96	4.78	J. D. Hood, Sanford.
Fertilizer	5236	11.00	10.50	0.95	11.45	4.38	3.02	Sid Smith, Woodville.
Fertilizer	5237	14.60	8.96	0.92	9.88	8.22	.....	R. L. Richey, Miccosukee.
Fertilizer	5238	14.47	8.98	0.95	9.93	8.40	.....	G. W. Exum, Woodville.
Fertilizer	5239	9.18	10.88	0.22	11.10	2.29	2.92	B. F. Smith, Miccosukee.
Cotton Seed Meal................	5240	7.81	.....	.....	.....	9.49	.....	W. A. Dawkins, Juniper.
Mixed Fertilizer No. 1..........	5241	3.90	3.65	10.20	13.85	6.75	4.50	Smith, Connelly & Lake, Sanford.
Mixed Fertilizer No. 2..........	5242	9.00	6.55	3.20	9.75	6.35	3.72	Smith, Connelly & Lake, Sanford.
Tankage No. 1....................	5243	6.38	5.60	13.15	18.75	8.00	.....	Joseph Cameron, Sanford.
Mixed Fertilizer No. 2..........	5244	3.89	5.02	10.75	15.77	6.88	4.08	Joseph Cameron, Sanford.
Mixed Fertilizer	5245	6.17	4.83	2.55	7.38	6.37	4.90	G. C. Chamberlain, Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued).

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer No. 1..........	5246	8.31	7.56	1.07	8.63	4.72	3.14	Smith & Dutton, Sanford.
Mixed Fertilizer No. 2..........	5247	7.93	5.10	2.20	7.30	5.87	4.76	Smith & Dutton, Sanford.
Mixed Fertilizer	5248	6.06	4.53	7.85	12.38	6.13	4.42	C. J. Meriwether, Sanford.
Mixed Fertilizer	5249	6.56	7.08	0.70	7.78	6.25	1.56	I. E. Esteridge, Sanford.
Mixed Fertilizer	5250	12.61	6.33	4.12	10.45	4.63	3.24	G. C. Spearing, Sanford.
Tankage No. 1..................	5251	7.45	3.98	6.97	10.95	10.70	.....	R. S. Shimmons, Sanford.
Tankage No. 1..................	5252	6.81	6.36	11.97	18.33	8.57	.....	Joe Fernandez, Sanford.
Mixed Fertilizer No. 2..........	5253	10.10	7.50	3.20	10.50	4.88	3.58	Joe Fernandez, Sanford.
Fish Fertilizer No. 1...........	5254	16.88	9.28	4.70	13.98	4.51	.....	R. H. Muirhead, Sanford.
Mixed Fertilizer No. 2..........	5255	12.65	6.44	1.02	7.46	4.10	3.10	R. H. Muirhead, Sanford.

Mixed Fertilizer No. 3..........	5256	10.51	6.38	4.34	10.72	5.40	5.56	R. H. Muirhead, Sanford.
Mixed Fertilizer	5257	15.75	6.37	1.27	7.64	4.19	3.34	R. S. Shimmons, Sanford.
Mixed Fertilizer	5258	4.90	3.03	4.37	7.40	6.73	3.64	A. R. Meriwether, Sanford.
Mixed Fertilizer No. 1..........	5259	11.81	4.94	4.46	9.40	4.02	3.47	C. J. Cranston, Sanford.
Mixed Fertilizer No. 1..........	5260	8.25	6.08	2.20	8.28	4.64	3.28	A. H. Stone, Sanford.
Mixed Fertilizer No. 2..........	5261	10.13	4.65	2.43	7.08	5.55	4.66	A. H. Stone, Sanford.
Mixed Fertilizer No. 1..........	5262	5.32	2.64	4.55	7.19	6.67	3.48	D. Leach, Sanford.
Mixed Fertilizer No. 2..........	5263	8.08	6.04	3.18	9.22	5.55	4.80	D. Leach, Sanford.
Mixed Fertilizer	5264	4.93	2.85	3.91	6.76	6.71	4.20	John Meisch, Sanford.
Fertilizer	5265	7.86	9.65	0.27	9.92	5.11	4.42	Mrs. F. B. Williamson, Mt. Dora.
Mixed Fertilizer No. 1..........	5266	11.38	4.46	1.82	6.28	5.15	5.38	Smith & Dutton, Sanford.
Mixed Fertilizer No. 2..........	5267	10.12	7.14	0.96	8.10	4.70	3.20	Smith & Dutton, Sanford.
Mixed Fertilizer No. 3..........	5268	6.25	7.47	0.70	8.17	4.23	.....	Smith & Dutton, Sanford.
Goat Manure No. 2.............	5269	15.27	0.83	0.06	0.89	2.04	3.66	Tropical Vegetable Co., Sanford.
Mixed Fertilizer No. 1..........	5270	8.13	5.74	1.70	7.44	4.64	1.16	Partin Bros., Sanford.
Mixed Fertilizer No. 2..........	5271	8.75	4.59	2.05	6.64	5.10	5.28	Partin Bros., Sanford.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued).

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5272	10.68	5.08	3.70	8.78	5.32	5.40	John Russell, Sanford.
Mixed Fertilizer	5273	9.76	4.89	3.16	8.05	6.42	5.78	G. L. Bledsoe, Sanford.
Mixed Fertilizer	5274	10.18	5.97	2.66	8.63	5.44	5.66	J. D. Hood, Sanford.
Mixed Fertilizer	5275	8.40	6.41	1.23	7.64	4.38	3.48	J. H. Perritt, Sanford.
Tankage No. 1..................	5276	6.37	2.90	4.91	7.81	10.27	.....	W. J. Thigpen, Sanford.
Mixed Fertilizer No. 2..........	5277	12.32	4.70	1.91	6.61	4.21	3.12	W. J. Thigpen, Sanford.
Raw Ground Bone Meal.........	5278	7.18	4.55	15.95	20.50	5.14	.....	W. J. Lawton, Sanford.
Mixed Fertilizer	5279	7.38	7.19	1.64	8.83	5.30	4.82	J. M. Brown, Sanford.
Mixed Fertilizer No. 1..........	5280	11.40	5.09	3.05	8.14	6.18	3.47	Tropical Vegetable Co., Sanford.
Mixed Fertilizer	5281	10.45	7.90	2.27	10.17	5.10	2.38	Lew Hamburger, Sanford.

Mixed Fertilizer	5282	11.66	5.72	4.00	9.72	4.24	4.10	W. G. Aldridge, Sanford.
Mixed Fertilizer	5283	7.06	4.26	0.68	4.94	4.45	2.80	J. H. Perritt, Sanford.
Mixed Fertilizer	5284	8.50	8.57	6.93	15.50	3.98	2.94	W. J. Daniels, Sanford.
Mixed Fertilizer	5285	8.15	6.42	0.84	7.26	4.80	1.06	Partin Bros., Sanford.
Mixed Fertilizer	5286	8.75	4.76	4.07	8.83	5.25	5.18	M. B. Lyons, Sanford.
Blood and Bone	5287	5.50	4.37	5.30	9.67	8.34	.....	L. A. Brumley, Sanford.
Mixed Fertilizer	5288	9.38	6.68	1.42	8.10	6.37	4.44	Rex Packard, Sanford.
Mixed Fertilizer	5289	10.02	8.02	2.10	10.12	3.70	2.68	Rex Packard, Sanford.
"Nitrapo"	5290	1.45	.....	.....	.....	17.78	19.22	G. F. Smith, Sanford.
Potash Nitrate	5291	0.61	.....	.....	.....	18.51	9.04	I. E. Esteridge, Sanford.
Potash Nitrate	5292	0.91	.....	.....	.....	18.48	10.08	L. S. Robb, Sanford.
Mixed Fertilizer	5293	5.58	6.58	0.42	7.00	2.21	5.96	L. J. Hartley, Sanford.
Mixed Fertilizer	5294	10.14	4.93	4.07	9.00	5.61	5.16	J. E. Pace, Sanford.
Cotton Seed Meal	5295	7.16	.....	.....	.....	8.45	.....	F. W. Nordhouse, Quincy.
Tomato Fertilizer No. 1	5296	13.76	7.48	0.82	8.30	3.74	4.84	Thos. Brewer, Florida City.
Tomato Fertilizer No. 2	5297	16.19	7.78	0.82	8.60	3.13	4.46	Thos. Brewer, Florida City.

SPECIAL FERTILIZER ANALYSES, 1920—(Continued).

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Acid Phosphate—Soo	5298	9.85	17.65	1.25	18.90	.....	.....	C. L. Mizell, Tallahassee.
Acid Phosphate—Sou	5299	7.51	18.08	1.72	19.80	.....	.....	C. L. Mizell, Tallahassee.
Fertilizer No. 1.................	5300	10.02	8.30	1.00	9.30	5.62	2.64	W. H. Towles, Ft. Myers.
Fertilizer No. 2.................	5301	10.55	4.23	2.17	6.40	5.06	.....	W. H. Towles, Ft. Myers.
Mixed Fertilizer	5302	9.00	6.55	0.82	7.37	3.91	3.00	Geo. S. Cain, Sanford.
Cotton Seed Meal..............	5303	9.91	.....	.....	.....	7.83	.....	C. G. Bell, Sanford.
Mixed Fertilizer	5304	12.75	6.22	1.85	8.07	4.29	3.30	L. S. Robb, Sanford.
Fertilizer	5305	9.07	7.18	2.47	9.65	2.39	3.42	E. S. Hines, Miccosukee.
Fertilizer	5306	10.51	8.77	1.55	10.32	2.48	3.58	R. L. Richey, Miccosukee.
Fertilizer	5307	10.55	7.67	2.80	10.47	2.13	2.44	Alex. McCallum, Crestview.

Fertilizer	5308	11.05	8.65	1.55	10.20	2.64	3.26	R. L. Richey, Miccosukee.
Fertilizer A	5309	9.50	6.40	3.57	9.97	5.21	2.06	Standard Growers Exchange, Orlando.
Fertilizer B	5310	10.05	8.80	1.22	10.02	4.46	2.94	W. L. Story, Orlando.
Fertilizer No. 1	5311	13.30	15.62	0.25	15.87	.....	.....	Panama Producers Assn., Chipley.
Fertilizer No. 2	5312	12.02	8.67	0.85	9.52	2.20	2.48	Panama Producers Assn., Chipley.
Fertilizer No. 3	5313	10.50	9.82	3.20	12.92	.....	3.83	Panama Producers Assn., Chipley.
Fertilizer No. 4	5314	12.90	10.12	0.85	10.97	3.89	2.15	Panama Producers Assn., Chipley.
Cotton Seed Meal	5315	9.25	.....	.....	.....	9.55	.....	M. W. Smith, Greensboro.
Fertilizer No. 1	5316	9.22	7.05	3.87	10.92	5.35	2.26	Standard Growers Exchange, Ft. Myers.
Fertilizer No. 2	5317	8.70	7.25	3.45	10.70	5.35	2.24	Standard Growers Exchange, Ft. Myers.
Fertilizer	5318	10.12	8.45	0.87	9.32	2.27	2.02	T. M. Williams, Starke.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. ROSE, State Chemist. OFFICIAL FEEDING STUFF ANALYSES, 1920. E. PECK GREENE, Asst. Chemist.

Samples Taken by State Chemist and State Inspectors Under Sections 1, 2 and 13, Act Approved May 24, 1905.

Deficiencies Greater than 0.20% are Distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
St. Johns Dairy Feed..........	3007	Guaranteed	10.00	9.00	64.00	3.00	2.00	St. Johns River Milling Co.,
		Found.....	8.87	9.08	67.23	3.02	1.45	Palatka, Fla.
St. Johns Hominy Feed Meal...	3008	Guaranteed	1.83	8.70	73.12	4.55	......	St. Johns River Milling Co.,
		Found.....	3.47	10.53	**66.44**	5.42	1.97	Palatka, Fla.
Peerless Mill Feed.............	3009	Guaranteed	12.00	16.00	56.00	4.00	......	Peerless Milling and Feed
		Found.....	8.82	16.46	**53.17**	4.30	7.00	Co., Cairo, Ill.
Second Class Cotton Seed Meal.	3010	Guaranteed	......	36.05	......	......	......	Camilla Cotton Oil and Fert.
		Found.....	......	**32.44**	......	......	......	Co., Camilla, Ga.
Pillsbury's B. Middlings.......	3011	Guaranteed	11.00	14.00	52.00	4.00	......	Pillsbury Flour Mills Co.,
		Found.....	8.55	16.32	55.44	**3.25**	5.22	Minneapolis, Minn.
Little Ned's Sweet Feed.......	3012	Guaranteed	12.00	9.00	57.00	1.50	......	Edgar-Morgan Co., Memphis,
		Found.....	11.88	10.32	**51.51**	6.70	5.44	Tenn.

E.-M. Horse and Mule Feed....	3013	Guaranteed	12.00	9.50	55.00	3.00	......	Edgar-Morgan Co., Memphis,
		Found.....	13.48	10.54	55.52	1.82	4.47	Tenn.
Old Virginy Molasses Feed....	3014	Guaranteed	15.00	9.00	55.00	2.00	......	J. T. Gibbons, New Orleans,
		Found.....	9.37	9.60	53.77	5.38	6.11	La.
"Hunter" Horse and Mule Feed.	3015	Guaranteed	14.00	9.00	50.00	2.00	......	Grain Belt Mills Co., South
		Found.....	8.79	9.08	58.34	1.99	6.38	St. Joseph, Mo.
Purina Chicken Chowder Feed.	3016	Guaranteed	10.00	19.00	47.00	4.00	......	Purina Mills, St. Louis, Mo.
		Found.....	4.40	19.43	54.48	3.77	7.92	
Union Grains..................	3017	Guaranteed	10.00	24.00	50.00	5.00	......	The Ubiko Milling Co., Cin-
		Found.....	9.80	23.96	44.17	5.65	5.85	cinnati, Ohio.
Ubiko Pig Meal................	3018	Guaranteed	8.00	18.00	50.00	5.00	......	The Ubiko Milling Co., Cin-
		Found.....	5.77	19.53	53.65	4.85	5.45	cinnati, Ohio.
Happy Hen Mash..............	3019	Guaranteed	15.00	18.00	50.00	5.00	......	Edgar-Morgan Co., Memphis,
		Found.....	8.10	18.21	53.92	4.62	5.95	Tenn.
Peters' Alfa-Fat	3020	Guaranteed	26.00	10.00	44.00	0.50	......	M. C. Peters Mills Co., Oma-
		Found.....	16.32	10.76	46.93	1.19	9.02	ha, Neb.
Big Value Horse and Mule Feed	3021	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Mem-
		Found.....	10.12	11.68	52.22	1.98	8.54	phis, Tenn.
Big Value Horse and Mule Feed	3022	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Mem-
		Found.....	14.19	11.13	49.31	2.85	8.64	phis, Tenn.

OFFICIAL FEEDING STUFF ANALYSES, 1920—(Continued).

NAME OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Evergreen Molasses Feed......	3023	Guaranteed	18.00	8.50	50.00	1.50	......	Milam-Morgan Co., New Orleans, La.
		Found.....	14.23	9.24	54.61	2.64	8.03	
Purina Feed with Molasses....	3024	Guaranteed	13.00	9.30	53.00	1.70	......	Purina Mills, St. Louis, Mo.
		Found.....	8.18	9.50	59.23	2.35	5.65	
Second Class Cotton Seed Meal.	3025	Guaranteed	......	35.04	......	......	......	Americus Oil Co., Americus, Ga.
		Found.....	......	38.00	......	......	......	
Second Class Cotton Seed Meal.	3026	Guaranteed	......	35.04	......	......	......	Americus Oil Co., Americus, Ga.
		Found.....	......	39.40	......	......	......	
Cotton Seed Meal............	3027	Guaranteed	......	......	......	......	......	Dothan Guano Co., Dothan, Ala.
		Found.....	......	45.42	......	......	......	
Monarch Cow Feed...........	3028	Guaranteed	15.00	26.00	45.00	5.00	......	Monarch Mills, Chattanooga, Tenn.
		Found.....	12.87	26.98	37.78	5.15	5.97	
Rich Middlings...............	3029	Guaranteed	8.35	15.02	60.40	4.00	3.60	Model Mills Co., Johnson City, Tenn.
		Found.....	7.37	16.02	54.84	3.60	5.80	

Pure Winter Wheat Middlings..	3030	Guaranteed	7.00	16.00	56.00	4.00	......	Koenigsmark Mill Co., Waterloo, Ill.
		Found.....	6.07	18.20	54.91	4.12	5.30	
Southern Scratch Feed........	3031	Guaranteed	10.00	9.00	60.00	2.50	......	J. T. Gibbons, New Orleans, La.
		Found.....	2.72	11.32	62.89	2.95	6.82	
Lucern Alfalfa Meal...........	3032	Guaranteed	33.00	12.00	35.00	5.00	......	M. C. Peters Mill Co., Omaha, Neb.
		Found.....	23.97	14.61	37.68	2.25	11.17	
Ubiko Stock Feed.............	3033	Guaranteed	12.00	10.00	62.00	3.50	......	The Ubiko Milling Co., Cincinnati, Ohio.
		Found.....	12.55	10.22	59.97	2.52	5.57	
Purina Chicken Chowder Feed.	3034	Guaranteed	10.00	19.00	47.00	4.00	......	Purina Mills, St. Louis, Mo.
		Found.....	8.40	19.04	50.29	4.07	8.05	
Wheat Middlings with Screenings	3035	Guaranteed	6.50	17.00	55.00	4.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	5.60	18.12	54.89	4.02	6.25	
Vaca Dairy Feed..............	3036	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull and Fibre Co., Memphis, Tenn.
		Found.....	25.12	17.46	37.74	2.50	5.23	
Kentucky's Choice Mixed Feed.	3037	Guaranteed	8.50	15.00	57.50	4.00	......	The Acme Mills, Hopkinsville, Ky.
		Found.....	7.10	16.67	54.32	4.62	7.07	
O. K. Feed with Molasses......	3038	Guaranteed	15.00	9.00	50.00	1.50	......	Illinois Feed Mills, St. Louis, Mo.
		Found.....	11.66	10.50	52.91	2.55	9.03	
Hilife Molasses Feed..........	3039	Guaranteed	20.00	6.50	50.00	1.50	......	J. T. Gibbons, New Orleans, La.
		Found.....	12.48	8.02	53.08	2.03	9.69	

OFFICIAL FEEDING STUFF ANALYSES, 1920—(Continued).

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Oh Boy Horse and Mule Feed..	3040	Guaranteed	15.00	9.00	45.00	2.00	......	Miller-Jackson Grain Co.,
		Found.....	18.07	6.04	48.65	2.62	6.28	Tampa, Fla.
International Dan Patch Special	3041	Guaranteed	12.50	9.00	55.00	2.25	......	International Sugar Feed Co.,
		Found.....	10.96	9.25	49.42	2.49	8.92	Memphis, Tenn.
Happy Hen Scratch Feed......	3042	Guaranteed	5.00	10.00	65.00	3.50	......	Edgar-Morgan Co., Memphis,
		Found.....	2.32	10.40	66.04	3.27	3.50	Tenn.
Lookout Dairy Feed...........	3043	Guaranteed	20.00	15.00	45.00	3.00	......	Monarch Mills, Chattanooga,
		Found.....	18.35	16.58	42.00	4.37	7.35	Tenn.
Victor Horse Feed.............	3044	Guaranteed	15.00	10.00	50.00	2.50	......	Security Mill and Feed Co.,
		Found.....	8.50	10.94	51.79	2.92	7.90	Knoxville, Tenn.
Suwanee Horse and Mule Feed.	3045	Guaranteed	15.00	9.00	50.00	2.00	......	Milam-Morgan Co., New Orleans, La.
		Found.....	20.33	7.75	45.06	2.11	10.62	
Seminole Horse and Mule Feed.	3046	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	3.18	8.32	58.50	2.48	7.97	

Big Value Horse and Mule Feed	3047	Guaranteed	20.00	9.00	50.00	1.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	13.65	10.77	47.87	1.77	9.74	
Quarto Dairy Feed...........	3048	Guaranteed	15.00	24.00	48.00	3.50	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	12.53	23.56	47.64	4.46	8.38	

DEPARTMENT OF AGRICULTURE — DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. E. T. CASLER, Asst. Chemist.

OFFICIAL GASOLINE ANALYSES, 1920.

Samples Taken by State Inspectors Under Act Approved June 4th, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
29	Gasoline	58.0	45	25	60	93	97	206	E. M. Johns.....	Standard Oil Co., Fernandina.
30	Gasoline	58.0	49	25	61	93	97	207	E. M. Johns.....	Standard Oil Co., St. Augustine.
31	Gasoline	Sample discarded. Not taken lawfully.								
32	Gasoline	58.0	51	25	62	94	97	206	E. M. Johns.....	Standard Oil Co., St. Augustine.
33	Gasoline	56.7	45	40	69	93	97	211	E. M. Johns.....	Gulf Refining Co., St. Augustine.
34	Gasoline	58.5	53	24	60	93.5	97	208	E. M. Johns.....	Standard Oil Co., Hastings.
35	Gasoline	58.2	51	34	70	94	97	210	E. M. Johns.....	The Texas Co., Hastings.

36	Gasoline	58.2	51	28	60.5	90	96.5	224	E. M. Johns.....	Gulf Refining Co., Hastings.
37	Gasoline	58.2	53	33.5	70	94.5	97.5	210	E. M. Johns.....	The Texas Co., Palatka.
38	Gasoline	58.5	52	33	71	94	97	210	E. M. Johns.....	The Texas Co., Palatka.
39	Gasoline	56.9	54	21.5	58	93.5	97	206	E. M. Johns.....	Standard Oil Co., Lake Butler.
40	Gasoline	57.5	52	22	57	93.5	97	206	E. M. Johns.....	Standard Oil Co., Lake Butler.
41	Gasoline	58.0	49	24	60	94	98	209	E. M. Johns.....	Standard Oil Co., Lake Butler.
42	Gasoline	64.0	58	47	90	97.5 at 165 C	97.5	165	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
43	Gasoline	64.0	57	48	90.5	97.5 at 162 C	97.5	162	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
44	Gasoline	64.0	57	47	90.5	97.5 at 162 C	97.5	162	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
45	Gasoline	64.0	56	48	90.5	97.5 at 162 C	97.5	162	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
46	Gasoline	58.0	47	26	64	94	97	205	W. H. Mapoles..	Standard Oil Co., Blountstown.
47	Gasoline	58.0	51	24	60	93	97	207	W. H. Mapoles..	Standard Oil Co., Telogia.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
48	Gasoline	58.0	51	25	62	94	98	209	W. H. Mapoles..	Standard Oil Co., Apalachicola.
49	Gasoline	57.0	51	35	69	93	97	215	W. H. Mapoles..	Gulf Refining Co., Apalachicola.
50	Gasoline	57.0	49	28	60	**89**	97.5	**227**	W. H. Mapoles..	Gulf Refining Co., Carrabelle.
51	Gasoline	58.0	54	25	60	93	97	207	E. M. Johns.....	Standard Oil Co., Raiford.
52	Gasoline	58.0	55	25	61	94	97	211	E. M. Johns.....	Standard Oil Co., Baldwin.
53	Gasoline	58.0	58	25	62	95	97.5	205	E. M. Johns.....	Standard Oil Co., Baldwin.
54	Gasoline	58.2	51	25	62	93.5	97.5	207	E. M. Johns.....	Standard Oil Co., Macclenny.
55	Gasoline	58.2	53	25	61	94	97	208	E. M. Johns.....	Standard Oil Co., Macclenny.
56	Gasoline	58.3	51	34	71	94	97.5	209	E. M. Johns.....	The Texas Co., Macclenny.
57	Gasoline	58.0	55	24	61.5	94	97.5	209	G. B. Hills......	Standard Oil Co., Tampa.

58	Gasoline	58.2	53	33	69	94	97	210	G. B. Hills......	Texas Oil Co., Tampa.
59	Gasoline	58.0	49	32.5	68	93.5	97	211	G. B. Hills......	Texas Oil Co., Tampa.
60	Gasoline	58.0	51	24	60	93	97	210	G. B. Hills......	Standard Oil Co., Tampa.
61	Gasoline	58.0	51	24	60	93.5	97	209	G. B. Hills......	Standard Oil Co., Tampa.
62	Gasoline	58.0	52	32.5	69	94.5	97	210	G. B. Hills......	Texas Oil Co., Tampa.
63	Gasoline	58.0	48	32.5	67	93	97	218	G. B. Hills......	Gulf Refining Co., Tampa.
64	Gasoline	58.0	52	32	68	93	97	213	G. B. Hills......	Texas Oil Co., Tampa.
65	Gasoline	57.5	52	24	60	92	97	216	G. B. Hills......	Standard Oil Co., Tampa.
66	Gasoline	58.0	52	24	60	93	97.5	213	G. B. Hills......	Standard Oil Co., Port Tampa.
67	Gasoline	58.0	52	24	60	93	97	213	G. B. Hills......	Standard Oil Co., Ballast Point.
68	Gasoline	58.0	53	24	61.5	93	97	208	G. B. Hills......	Standard Oil Co., Tampa.
69	Gasoline	58.0	53	25	61	93	97	208	G. B. Hills......	Standard Oil Co., Tampa.
70	Gasoline	58.0	55	24	60	94.5	98	209	G. B. Hills......	Standard Oil Co., Tampa.
71	Gasoline	57.5	51	34	69	93.5	97.5	217	G. B. Hills......	Gulf Refining Co., Tampa.
72	Gasoline	58.0	56	32	68	94	97.5	213	G. B. Hills......	Texas Oil Co., Tampa.
73	Gasoline	58.0	54	23	56	90	97	220	W. H. Mapoles..	Gulf Refining Co., Lloyd.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
74	Gasoline	58.0	56	23	58.5	93	97	210	W. H. Mapoles..	Standard Oil Co., Monticello.
75	Gasoline	58.0	53	35	65	91.5	98	223	W. H. Mapoles..	Gulf Refining Co., Live Oak.
76	Gasoline	58.0	56	27	55	91	98	220	W. H. Mapoles..	Gulf Refining Co., Lake City.
77	Gasoline	58.0	54	24	58.5	91	97	225	W. H. Mapoles..	Standard Oil Co., Lake City.
78	Gasoline	58.0	55	23	56	91	97.5	221	W. H. Mapoles..	Gulf Refining Co., Lake City.
79	Gasoline	58.0	51	26.5	62	94	98	211	W. H. Mapoles..	Standard Oil Co., Lake City.
80	Gasoline	58.0	55	24	55	90.5	98	222	W. H. Mapoles..	Gulf Refining Co., Lake City.
81	Gasoline	58.0	48	26	62	94	98	214	W. H. Mapoles..	Standard Oil Co., Welborn.
82	Gasoline	58.0	52	25	62.5	94	97.5	214	W. H. Mapoles..	Standard Oil Co., Mayo.

83	Gasoline	58.0	53	25	62	93	97.5	215	W. H. Mapoles..	Standard Oil Co., Mayo
84	Gasoline	58.0	51	25	63	95	98	206	W. H. Mapoles..	Standard Oil Co., Carbur.
85	Gasoline	57.8	54	27	58	91	97.5	221	W. H. Mapoles..	Gulf Refining Co., Perry.
86	Gasoline	53.0	54	29	61	91	98	221	W. H. Mapoles..	Gulf Refining Co., Perry.
87	Gasoline	59.0	40	29	62	93	97.5	213	G. B. Hills......	Standard Oil Co., Port Tampa.
88	Gasoline	58.5	45	27	60	91	97	218	G. B. Hills......	Standard Oil Co., Port Tampa.
89	Gasoline	58.5	45	28	61	92	97.5	215	G. B. Hills......	Standard Oil Co., Port Tampa.
90	Gasoline	59.5	40	30	62	93	97.5	214	G. B. Hills......	Standard Oil Co., Port Tampa.
91	Gasoline	58.5	45	29	61	93	98	215	G. B. Hills......	Standard Oil Co., Port Tampa.
92	Gasoline	58.0	50	25	61	94	97.5	209	E. M. Johns.....	Standard Oil Co., Jacksonville.
93	Gasoline	58.0	56	24	61	93	97	215	E. M. Johns.....	Standard Oil Co., Jacksonville.
94	Gasoline	58.5	56	32	72	95	97	202	E. M. Johns.....	The Texas Co., Jacksonville.
95	Gasoline	58.3	55	25	60	93.5	97.5	210	E. M. Johns.....	Standard Oil Co., Jacksonville.
96	Gasoline	58.6	56	31	73	95	97	202	E. M. Johns.....	The Texas Co., Jacksonville.
97	Gasoline	60.5	52	43	78	95.5	97	199	E. M. Johns.....	Gulf Refining Co., Jacksonville.
98	Gasoline	60.5	54	43	78	95	97	201	E. M. Johns.....	Gulf Refining Co., Jacksonville.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
99	Gasoline	58.0	56	25	61	93.5	97	209	E. M. Johns.....	Standard Oil Co., Bunnell.
100	Gasoline	58.0	49	33	63	90.5	97	225	E. M. Johns.....	Gulf Refining Co., Daytona.
101	Gasoline	58.0	57	25	61	94	97.5	209	E. M. Johns.....	Standard Oil Co., Bunnell.
102	Gasoline	58.0	56	23	59	94	98	211	E. M. Johns.....	Standard Oil Co., Daytona.
103	Gasoline	58.0	60	23	63	93.5	97.5	209	E. M. Johns.....	Standard Oil Co., Seabreeze.
104	Gasoline	Sample bottle broken in transit.								
105	Gasoline	58.5	55	25	61	93	97	210	E. M. Johns.....	Standard Oil Co., Daytona.
106	Gasoline	58.0	60	23	61	93.5	97	209	E. M. Johns.....	Standard Oil Co., New Smyrna.
107	Gasoline	58.0	58	24	59	94	97.5	211	E. M. Johns.....	Standard Oil Co., New Smyrna.

108	Gasoline	64.5	60	48	90	97.5 at 164	97.5	164	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
109	Gasoline	64.5	58	49	90	97 at 162	97	162	E. M. Johns.....	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
110	Gasoline	58.6	59	31	70	95	97	203	E. M. Johns.....	Gulf Refining Co., Gainesville.
111	Gasoline	58.5	57	32	71.5	96	97	200	E. M. Johns.....	Gulf Refining Co., Gainesville.
112	Gasoline	58.4	55	26	61	93	97	211	W. H. Mapoles..	Standard Oil Co., Pensacola.
113	Gasoline	58.3	53	31	63	91.5	97	220	W. H. Mapoles..	Gulf Refining Co., Pensacola.
114	Gasoline	57.8	60	29	68	95	98	205	W. H. Mapoles..	Texas Oil Co., Pensacola.
115	Gasoline	58.3	53	27	62	94	97.5	211	W. H. Mapoles..	Standard Oil Co., Pensacola.
116	Gasoline	58.4	53	30	61	90.5	97	223	W. H. Mapoles..	Gulf Refining Co., Pensacola.
117	Gasoline	58.0	60	31	70	95	97.5	206	W. H. Mapoles..	Texas Oil Co., Pensacola.
118	Gasoline	58.3	60	31.5	68	94.5	97	202	E. M. Johns.....	The Texas Co., Archer.
119	Gasoline	58.0	56	25	60	93.5	97.5	211	E. M. Johns.....	Standard Oil Co., Williston.
120	Gasoline	58.0	56	25	61	93.5	97.5	212	E. M. Johns.....	Standard Oil Co., Williston.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
121	Gasoline	58.5	57	25	61	93.5	97.5	212	E. M. Johns.....	Standard Oil Co., Williston.
122	Gasoline	58.7	57	25	60	92	97	212	E. M. Johns.....	Standard Oil Co., Starke.
123	Gasoline	58.7	55	25	60	92	97	212	E. M. Johns.....	Standard Oil Co., Starke.
124	Gasoline	59.4	50	34	72.5	94	97	208	G. B. Hills......	Gulf Refining Co., Tampa.
125	Gasoline	59.4	50	33	71	94	96.5	207	G. B. Hills......	Gulf Refining Co., Tampa.
126	Gasoline	59.4	51	35	73	94	97	207	G. B. Hills......	Gulf Refining Co., Tampa.
127	Gasoline	59.5	47	34	72	94.5	97	205	G. B. Hills......	Gulf Refining Co., Port Tampa.
128	Gasoline	59.5	50	34	72	94.5	97	209	G. B. Hills......	Gulf Refining Co., Port Tampa.

129	Gasoline	59.5	50	34	73	95	97	205	G. B. Hills......	Gulf Refining Co., Port Tampa.
130	Gasoline	58.0	55	32.5	66	92.5	97	225	E. M. Johns.....	Gulf Refining Co., Cedar Key.
131	Gasoline	58.0	53	33	66	92.5	97	221	E. M. Johns.....	Gulf Refining Co., Cedar Key.
132	Gasoline	58.2	51	26	61	94	97	210	E. M. Johns.....	Standard Oil Co., Bronson.
133	Gasoline	58.2	58	23	62	94	97	210	E. M. Johns.....	Standard Oil Co., Bronson.
134	Gasoline	58.2	56	31	70	96	97	200	E. M. Johns.....	The Texas Co., Archer.
135	Gasoline	58.1	57	23	61	93.5	97.5	213	G. B. Hills......	Standard Oil Co., Parrish.
136	Gasoline	58.2	55	25	61	93	97	212	G. B. Hills......	Standard Oil Co., Terra Ceia.
137	Gasoline	58.0	53	25	61	93	97	212	G. B. Hills......	Standard Oil Co., Palmetto.
138	Gasoline	58.0	55	22	61	92.5	97	210	G. B. Hills......	Standard Oil Co., Bradentown.
139	Gasoline	57.2	50	36	68.5	93	97.5	218	G. B. Hills......	Gulf Refining Co., Manatee.
140	Gasoline	57.2	51	36	67.5	92.5	97.5	223	G. B. Hills......	Gulf Refining Co., Venice.
141	Gasoline	58.2	49	26	61	93	97.5	213	W. H. Mapoles..	Standard Oil Co., Milton.
142	Gasoline	58.3	50	26.5	62	94	97.5	212	W. H. Mapoles..	Standard Oil Co., Milton.
143	Gasoline	58.2	48	26	60	93	97	215	W. H. Mapoles..	Standard Oil Co., Bagdad.
144	Gasoline	58.0	50	25	61	94	97.5	212	W. H. Mapoles..	Standard Oil Co., Bagdad.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	%Distillate Below 105 °C	%Distillate Below 140° C	%Distillate Below 190° C	%Recovered	End Point °C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
145	Gasoline	58.0	51	25	61	93	97.5	215	W. H. Mapoles..	Standard Oil Co., DeFuniak.
146	Gasoline	58.5	50	27	62	93	97.5	214	W. H. Mapoles..	Standard Oil Co., DeFuniak.
147	Gasoline	58.0	51	27	62	94	97	208	E. M. Johns.....	Standard Oil Co., Titusville.
148	Gasoline	58.5	53	25	63	93	97	212	E. M. Johns.....	Gulf Refining Co., Titusville.
149	Gasoline	57.5	53	27	61	92	97.5	220	E. M. Johns.....	Standard Oil Co., Cocoa.
150	Gasoline	58.5	52	25	63	93.5	97	213	E. M. Johns.....	Standard Oil Co., DeLand.
151	Gasoline	58.3	56	32	71	96.5	98	200	E. M. Johns.....	The Texas Co., DeLand.
152	Gasoline	57.2	50	32	63	91	97	224	E. M. Johns.....	Gulf Refining Co., DeLand.
153	Gasoline	58.0	58	32	67.5	93	97	213	G. B. Hills......	Texas Oil Co., Tampa.

154	Gasoline	58.0	58	31	67.5	93	97	213	G. B. Hills......	Texas Oil Co., Palmetto Beach.
155	Gasoline	58.0	58	33	69	93	97	212	G. B. Hills......	Texas Oil Co., Sulphur Springs.
156	Gasoline	58.0	55	24.5	60	93	97	214	G. B. Hills......	Standard Oil Co., Sulphur Springs.
157	Gasoline	58.0	55	24	62	94	97.5	209	G. B. Hills......	Standard Oil Co., Tampa.
158	Gasoline	59.2	57	32	72.5	95	97	208	G. B. Hills......	Gulf Refining Co., Tampa.
159	Gasoline	59.0	57	37	72	95	97	208	E. M. Johns.....	The Texas Co., Jacksonville.
160	Gasoline	61.4	53	45.5	81	95.5	97	200	E. M. Johns.....	Gulf Refining Co., Jacksonville.
161	Gasoline	58.4	52	27	63	93.5	97	211	E. M. Johns.....	Standard Oil Co., Jacksonville.
162	Gasoline	58.6	59	33	73.5	95.5	97	203	E. M. Johns.....	The Texas Co., Jacksonville.
163	Gasoline	58.5	51	26	66	93.5	97	213	E. M. Johns.....	Standard Oil Co., Jacksonville.
164	Gasoline	58.1	54	24	60	93	97	212	E. M. Johns.....	Standard Oil Co., Jacksonville,
165	Gasoline	58.9	52	33	72	95	97	206	G. B. Hills......	Gulf Refining Co., St. Petersburg.
166	Gasoline	58.2	55	25.5	61.5	93	97	214	G. B. Hills......	Standard Oil Co., St. Petersburg.
167	Gasoline	58.0	57	33	70	94	98	211	G. B. Hills......	The Texas Co., St. Petersburg.
168	Gasoline	58.0	57	32	69.5	94	97.5	213	G. B. Hills......	The Texas Co., St. Petersburg.
169	Gasoline	58.3	53	27	62	92.5	97.5	218	G. B. Hills......	Standard Oil Co., St. Petersburg.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
170	Gasoline	58.4	53	27	60	93	97.5	213	G. B. Hills......	Standard Oil Co., St. Petersburg.
171	Gasoline	58.8	51	26.5	62	92.5	97	213	W. H. Mapoles..	Standard Oil Co., Milton.
172	Gasoline	57.3	59	28	67	94.5	97	208	W. H. Mapoles..	Texas Oil Co., Crestview.
173	Gasoline	58.4	54	25	62	94	97.5	208	W. H. Mapoles..	Standard Oil Co., Crestview.
174	Gasoline	58.2	53	25	62	94.5	97.5	210	W. H. Mapoles..	Standard Oil Co., Crestview.
175	Gasoline	58.3	51	26	62	94	97.5	210	W. H. Mapoles..	Standard Oil Co., Crestview.
176	Gasoline	58.3	55	25	61	95	97.5	206	W. H. Mapoles..	Standard Oil Co., Baker.
177	Gasoline	58.3	51	26	62	93.5	97	209	W. H. Mapoles..	Standard Oil Co., Milligan.
178	Gasoline	58.4	42	28	62	92	97	214	G. B. Hills......	Standard Oil Co., Tarpon Springs.

179	Gasoline	58.4	45	27.5	61	92	97	214	G. B. Hills......	Standard Oil Co., Tarpon Springs.
180	Gasoline	58.6	48	28	61	93	97	214	G. B. Hills......	Standard Oil Co., Tarpon Springs.
181	Gasoline	58.6	47	28	61	93	97	216	G. B. Hills......	Standard Oil Co., Tarpon Springs.
182	Gasoline	58.6	51	28	66	94.5	97.5	212	G. B. Hills......	Standard Oil Co., Tarpon Springs.
183	Gasoline	59.1	52	34	73	95.5	97.5	208	G. B. Hills......	Standard Oil Co., Oldsmar.
184	Gasoline	58.4	46	26.5	62.5	93	97	212	E. M. Johns.....	Standard Oil Co., High Springs.
185	Gasoline	58.4	55	25	62	93	97	212	E. M. Johns.....	Standard Oil Co., High Springs.
186	Gasoline	58.4	52	26	62	93.5	98	213	E. M. Johns.....	Standard Oil Co., Newberry.
187	Gasoline	57.8	59	23	60	95	98	209	E. M. Johns.....	Standard Oil Co., Newberry.
188	Gasoline	58.5	51	26	62	95	98	211	E. M. Johns.....	Standard Oil Co., Alachua.
189	Gasoline	58.4	55	25	62	95	98	207	E. M. Johns.....	Standard Oil Co., Alachua.
190	Gasoline	58.0	51	25	62	94	97	210	G. B. Hills......	Standard Oil Co., Tampa.
191	Gasoline	58.3	55	25	60	92	97	215	G. B. Hills......	Standard Oil Co., Tampa.
192	Gasoline	58.4	53	28	61.5	93.5	98	214	G. B. Hills......	Standard Oil Co., Tampa.
193	Gasoline	58.3	58	25	61	94	98	213	G. B. Hills......	Standard Oil Co., Tampa.
194	Gasoline	58.4	55	34	72	95	98	211	G. B. Hills......	The Texas Co., Tampa.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
195	Gasoline	57.9	58	24.5	60	93	98	223	G. B. Hills......	Standard Oil Co., Tampa.
196	Gasoline	58.7	50	28	63	93.5	97	212	W. H. Mapoles..	Standard Oil Co., Bonifay.
197	Gasoline	58.5	55	27.5	62	93.5	98	216	W. H. Mapoles..	Standard Oil Co., Bonifay.
198	Gasoline	58.7	53	29	69	94	98	215	W. H. Mapoles..	Standard Oil Co., Bonifay.
199	Gasoline	58.7	51	27.5	62.5	93	98	210	W. H. Mapoles..	Standard Oil Co., Chipley.
200	Gasoline	58.7	52	27.5	63	94	98	215	W. H. Mapoles..	Standard Oil Co., Chipley.
201	Gasoline	58.7	52	27	65	94.5	98	208	W. H. Mapoles..	Standard Oil Co., Chipley.
202	Gasoline	60.0	46	43	75	94	97	214	W. H. Mapoles..	Gulf Refining Co., Marianna.
203	Gasoline	58.3	56	24.5	62	92.5	96.5	210	W. H. Mapoles..	Standard Oil Co., Marianna.

204	Gasoline	58.3	55	27	64	94	97.5	213	W. H. Mapoles..	Standard Oil Co., Marianna.
205	Gasoline	58.2	56	26	65	94	98	207	W. H. Mapoles..	Standard Oil Co., Marianna.
206	Gasoline	58.3	56	27	64	94.5	98	211	W. H. Mapoles..	Standard Oil Co., Marianna.
207	Gasoline	58.3	55	25	62	94.5	98	210	W. H. Mapoles..	Standard Oil Co., Marianna.
208	Gasoline	58.7	50	28	62	92.5	97	218	E. M. Johns.....	Standard Oil Co., Orlando.
209	Gasoline	58.7	50	27	59	92	97	214	E. M. Johns.....	Standard Oil Co., Orlando.
210	Gasoline	58.7	52	28	63.5	94	98	214	E. M. Johns.....	Standard Oil Co., Orlando.
211	Gasoline	59.4	56	39	74	95	97.5	212	E. M. Johns.....	The Texas Co., Sanford.
212	Gasoline	58.7	55	28	65	94	98	212	E. M. Johns.....	Standard Oil Co., Sanford.
213	Gasoline	58.4	53	40	75	95	97	208	E. M. Johns.....	The Texas Co., Sanford.
214	Gasoline	58.5	47	27	61	93	96.5	211	W. H. Mapoles..	Standard Oil Co., Graceville.
215	Gasoline	58.5	54	27	61	92.5	96.5	210	W. H. Mapoles..	Standard Oil Co., Graceville.
216	Gasoline	58.6	53	27	61	92.5	97	213	W. H. Mapoles..	Standard Oil Co., Noma.
217	Gasoline	58.6	51	27	61	92.5	97	213	W. H. Mapoles..	Standard Oil Co., Noma.
218	Gasoline	58.6	55	34	66	92	97	221	W. H. Mapoles..	Gulf Refining Co., Campbellton.
219	Gasoline	58.4	52	26	62	94.5	98	210	W. H. Mapoles..	Standard Oil Co., Greenwood.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
220	Gasoline	60.1	52	41	77	95.5	96.5	201	G. B. Hills......	Gulf Refining Co., Port Tampa.
221	Gasoline	60.2	54	40	76.5	95	96	200	G. B. Hills......	Gulf Refining Co., Port Tampa.
222	Gasoline	59.4	50	31	65	94	97	213	G. B. Hills......	Standard Oil Co., Port Tampa.
223	Gasoline	59.4	50	31	65	93	97	216	G. B. Hills......	Standard Oil Co., Port Tampa.
224	Gasoline	59.4	52	31	65	93	97.5	216	G. B. Hills......	Standard Oil Co., Port Tampa.
225	Gasoline	59.4	52	30	65	93.5	97.5	216	E. M. Johns.....	Standard Oil Co., Bushnell.
226	Gasoline	58.5	48	27	61	92	96	215	G. B. Hills......	Standard Oil Co., Bushnell.
227	Gasoline	58.4	54	25	61	91	96	216	E. M. Johns.....	Standard Oil Co., Bushnell.
228	Gasoline	58.5	51	27	61	93	97	215	E. M. Johns.....	Standard Oil Co., Brooksville.

229	Gasoline	58.4	51	27	61	93	98	215	E. M. Johns.....	Standard Oil Co., Brooksville.
230	Gasoline	58.4	55	27	62.5	93	97	215	E. M. Johns.....	Standard Oil Co., Brooksville.
231	Gasoline	58.6	50	28	65	93.5	98	214	E. M. Johns.....	Standard Oil Co., Brooksville.
232	Gasoline	58.6	47	27	60.5	92.5	97	217	G. B. Hills......	Standard Oil Co., Dade City.
233	Gasoline	58.6	50	25	59	91	96	218	G. B. Hills......	Standard Oil Co., Dade City.
234	Gasoline	58.3	52	26	61	93	97.5	215	G. B. Hills......	Standard Oil Co., Dade City.
235	Gasoline	58.8	52	26	62	93	97	214	G. B. Hills......	Standard Oil Co., Trilby.
236	Gasoline	57.8	55	26	60	92	97	225	G. B. Hills......	Standard Oil Co., Zephyrhills.
237	Gasoline	58.8	49	27	60	92.5	97	216	G. B. Hills......	Standard Oil Co., Zephyrhills.
238	Gasoline	58.6	47	27	61	93	97	213	E. M. Johns.....	Standard Oil Co., Inverness.
239	Gasoline	58.4	50	25	59	92	97	216	E. M. Johns.....	Standard Oil Co., Inverness.
240	Gasoline	57.6	55	25	60	93	98	217	E. M. Johns.....	Standard Oil Co., Inverness.
241	Gasoline	58.6	48	27	61	93	98	215	E. M. Johns.....	Standard Oil Co., Dunellon.
242	Gasoline	58.8	52	28	62	93.5	98	217	E. M. Johns.....	Standard Oil Co., Dunellon.
243	Gasoline	58.8	49	26	61	94	97.5	218	E. M. Johns.....	Standard Oil Co., Dunellon.
244	Gasoline	58.4	48	26	61	93	97	213	W. H. Mapoles..	Standard Oil Co., Blountstown.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
245	Gasoline	58.2	54	24	58	92	97	215	W. H. Mapoles..	Standard Oil Co., Blountstown.
246	Gasoline	58.4	50	26	61	94	97.5	210	W. H. Mapoles..	Standard Oil Co., Blountstown.
247	Gasoline	58.4	49	28	61	93.5	98	213	W. H. Mapoles..	Standard Oil Co., Blountstown.
248	Gasoline	58.4	49	25	60	92.5	97	213	W. H. Mapoles..	Standard Oil Co., Blountstown.
249	Gasoline	58.3	52	28	64	95	97.5	212	W. H. Mapoles..	Standard Oil Co., Laurel Hill.
250	Gasoline	59.2	47	36	70	94	97	208	E. M. Johns.....	The Texas Co., Jacksonville.
251	Gasoline	59.3	51	33.5	71	93	97	211	E. M. Johns.....	The Texas Co., Jacksonville.
252	Gasoline	58.5	48	27	62.5	94	97.5	212	E. M. Johns.....	Standard Oil Co., Jacksonville.
253	Gasoline	58.7	51	28	65	94	98	213	E. M. Johns.....	Standard Oil Co., Jacksonville.

254	Gasoline	58.0	51	26	61.5	94	97.5	216	E. M. Johns.....	Standard Oil Co., Jacksonville.
255	Gasoline	62.3	47	51	82	96	97.5	200	E. M. Johns.....	Gulf Refining Co., Jacksonville.
256	Gasoline	57.8	51	33	70	93	96.5	214	E. M. Johns.....	The Texas Co., Leesburg.
257	Gasoline	58.5	49	28	60.5	91.5	96	215	E. M. Johns.....	Standard Oil Co., Leesburg.
258	Gasoline	60.1	54	42	78	96.5	97.5	199	E. M. Johns.....	Gulf Refining Co., Leesburg.
259	Gasoline	58.8	54	27	62	92	97	219	E. M. Johns.....	Standard Oil Co., Eustis.
260	Gasoline	58.5	50	27.5	62	92	97	215	E. M. Johns.....	Standard Oil Co., Eustis.
261	Gasoline	58.8	48	28	62	93	97	219	E. M. Johns.....	Standard Oil Co., Eustis.
262	Gasoline	57.9	53	30	64	91.5	97	220	W. H. Mapoles..	Gulf Refining Co., Pensacola.
263	Gasoline	57.9	57	30	64	91.5	97	221	W. H. Mapoles..	Gulf Refining Co., Pensacola.
264	Gasoline	57.9	57	30.5	64	91.5	97	220	W. H. Mapoles..	Gulf Refining Co., Cantonement.
265	Gasoline	57.9	57	30.5	64	92	97.5	222	W. H. Mapoles..	Gulf Refining Co., Molino.
266	Gasoline	57.9	56	31	65	92.5	97.5	218	W. H. Mapoles..	Gulf Refining Co., Molino.
267	Gasoline	57.7	56	31	65	92.5	98	222	W. H. Mapoles..	Gulf Refining Co., Molino.
268	Gasoline	57.7	59	31	67	95	97.5	207	W. H. Mapoles..	The Texas Co., McDavid.
269	Gasoline	58.3	51	26.5	62	94	98	212	W. H. Mapoles..	Standard Oil Co., Century.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
270	Gasoline	58.0	46	26	59	90	96.5	222	W. H. Mapoles..	The Texas Co., Century.
271	Gasoline	58.7	46	30	65	92	97	213	W. H. Mapoles..	Standard Oil Co., Pace.
272	Gasoline	59.0	48	31	65	92	97	216	W. H. Mapoles..	Standard Oil Co., Jay.
273	Gasoline	58.4	51	32	64	91	97	220	W. H. Mapoles..	Gulf Refining Co., Munson.
274	Gasoline	60.1	54	41	76	96	97.5	201	G. B. Hills......	Gulf Refining Co., Moore Haven.
275	Gasoline	58.5	52	27	60	92	97	218	G. B. Hills......	Standard Oil Co., Moore Haven.
276	Gasoline	59.0	52	28	62	93	97.5	216	G. B. Hills......	Standard Oil Co., Lake Wales.
277	Gasoline	59.0	50	28	62.5	93	97	214	G. B. Hills......	Standard Oil Co., Lake Wales.
278	Gasoline	59.0	52	28	63	93	97.5	221	G. B. Hills......	Standard Oil Co., Lake Hamilton.

279	Gasoline	59.0	54	29	64	93.5	97	214	G. B. Hills......	Standard Oil Co., Haines City.
280	Gasoline	58.3	46	26	60	91.5	96.5	218	G. B. Hills......	Standard Oil Co., Frostproof.
281	Gasoline	58.3	48	26	60	91	97	221	G. B. Hills......	Standard Oil Co., Frostproof.
282	Gasoline	58.6	47	27.5	62	93	97	217	G. B. Hills......	Standard Oil Co., Avon Park.
283	Gasoline	58.6	48	27.5	62	93	98	215	G. B. Hills......	Standard Oil Co., Avon Park.
284	Gasoline	58.6	48	30	63	93.5	97	213	G. B. Hills......	Standard Oil Co., Avon Park.
285	Gasoline	58.6	49	28	62	93.5	98	215	G. B. Hills......	Standard Oil Co., Sebring.
286	Gasoline	58.8	45	34	69	93.5	97	210	E. M. Johns.....	The Texas Co., Jacksonville.
287	Gasoline	62.1	44	49	81	95.5	97	199	E. M. Johns.....	Gulf Refining Co., Jacksonville.
288	Gasoline	59.1	48	35	71	95	97.5	211	E. M. Johns.....	The Texas Co., Jacksonville.
289	Gasoline	58.4	52	26	61.5	94	98	214	E. M. Johns.....	Standard Oil Co., St. Augustine.
290	Gasoline	58.0	50	26	62	93.5	98	216	E. M. Johns.....	Standard Oil Co., St. Augustine.
291	Gasoline	58.4	52	26	63	93.5	98	214	E. M. Johns.....	Standard Oil Co., St. Augustine.
292	Gasoline	58.5	42	33	67	93	97	217	E. M. Johns.....	Standard Oil Co., Hastings.
293	Gasoline	58.3	47	33	67	92	97	222	E. M. Johns.....	Gulf Refining Co., Hastings.
294	Gasoline	58.3	50	27	63	93	98	215	E. M. Johns.....	Standard Oil Co., Hastings.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	%Distillate Below 105 °C	%Distillate Below 140° C	%Distillate Below 190° C	%Recovered	End Point °C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
295	Gasoline	59.1	55	39	73	95	98	210	E. M. Johns.....	The Texas Co., Palatka.
296	Gasoline	58.4	50	27	63	94	98	216	E. M. Johns.....	Standard Oil Co., Palatka.
297	Gasoline	58.3	48	26	63	94	98	215	E. M. Johns.....	Standard Oil Co., Starke.
298	Gasoline	59.8	46	40	77	96	97	202	G. B. Hills......	Gulf Refining Co., Dunedin.
299	Gasoline	58.8	47	28	64	94	97.5	217	G. B. Hills......	Standard Oil Co., Clearwater.
300	Gasoline	58.8	48	29	64	94	98	218	G. B. Hills......	Standard Oil Co., Clearwater.
301	Gasoline	58.8	48	28	64	94	98	216	G. B. Hills......	Standard Oil Co., Largo.
302	Gasoline	59.8	50	41	78	96	97.5	203	G. B. Hills......	Gulf Refining Co., Largo.
303	Gasoline	58.8	48	28	64	93.5	98	218	G. B. Hills......	Standard Oil Co., Dunedin.

304	Gasoline	59.0	41	29	64	93	97	213	G. B. Hills......	Standard Oil Co., West Tampa.
305	Gasoline	58.0	55	31	63	92	97	219	G. B. Hills......	The Texas Co., West Tampa.
306	Gasoline	59.0	48	29	64	93	97	215	G. B. Hills......	Standard Oil Co., Tampa.
307	Gasoline	58.8	49	27	60	92	97.5	224	G. B. Hills......	Standard Oil Co., Tampa.
308	Gasoline	59.0	47	28	63	92	97	217	G. B. Hills......	Standard Oil Co., Tampa.
309	Gasoline	59.0	49	27	60	93	97.5	220	G. B. Hills......	Standard Oil Co., Tampa.
310	Gasoline	58.0	49	27	60	91	97	218	W. H. Mapoles..	Standard Oil Co., Niceville.
311	Gasoline	58.1	49	27	60	90.5	97	218	W. H. Mapoles..	Standard Oil Co., Crestview.
312	Gasoline	58.1	48	28	63	92	97.5	214	W. H. Mapoles..	Standard Oil Co., Holt.
313	Gasoline	58.1	46	26	60	92	98	217	W. H. Mapoles..	Standard Oil Co., Holt.
314	Gasoline	58.5	47	29	65	94	97.5	212	W. H. Mapoles..	Standard Oil Co., Laurel Hill.
315	Gasoline	58.7	42	30	62	93	97	216	E. M. Johns.....	Standard Oil Co., Anthony.
316	Gasoline	58.7	45	27	62	92	97	219	E. M. Johns.....	Standard Oil Co., Anthony.
317	Gasoline	58.7	48	29	62	93	98	218	E. M. Johns.....	Standard Oil Co., Citra.
318	Gasoline	58.7	50	29	63	92	98	222	E. M. Johns.....	Gulf Refining Co., Citra.
319	Gasoline	58.8	48	28	62	93	97	216	E. M. Johns.....	Standard Oil Co., Ocala.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not, Above 225		
320	Gasoline	58.8	49	27	63	93	98	213	E. M. Johns.....	Standard Oil Co., Ocala.
321	Gasoline	59.4	42	35	68	92	97	220	E. M. Johns.....	Gulf Refining Co., Ocala.
322	Gasoline	58.4	48	31	63	91	97	222	E. M. Johns.....	Gulf Refining Co., Ocala.
323	Gasoline	58.6	50	27	60	92	97	219	E. M. Johns.....	Standard Oil Co., Ocala.
324	Gasoline	58.4	50	25	62	92	97.5	215	E. M. Johns.....	Standard Oil Co., Hawthorne.
325	Gasoline	58.4	52	25	63	93	97	218	E. M. Johns.....	Standard Oil Co., Hawthorne.
326	Gasoline	58.6	48	25	63	93	97.5	215	E. M. Johns.....	Standard Oil Co., Lawtey.
327	Gasoline	58.3	47	25	61	93	97	213	G. B. Hills......	Standard Oil Co., Melbourne.
328	Gasoline	58.3	51	24	59	92	96.5	216	G. B. Hills......	Standard Oil Co., Melbourne.

329	Gasoline	59.4	49	35	70	93	97	218	G. B. Hills......	Gulf Refining Co., Fort Pierce.
330	Gasoline	58.8	52	28	64	93	97.5	218	G. B. Hills......	Standard Oil Co., Fort Pierce.
331	Gasoline	58.5	50	26	62	93	97	216	G. B. Hills......	Standard Oil Co., Fort Pierce.
332	Gasoline	58.8	52	26	62	93	97.5	216	G. B. Hills......	Standard Oil Co., Fort Pierce.
333	Gasoline	58.5	48	27	62	92	96.5	211	E. M. Johns.....	Standard Oil Co., Jacksonville.
334	Gasoline	62.0	40	50	82	96	97	194	E. M. Johns.....	Gulf Refining Co., Jacksonville.
335	Gasoline	62.0	40	49	82	96	97	194	E. M. Johns.....	Gulf Refining Co., Jacksonville.
336	Gasoline	59.2	48	34	70	94	97	211	E. M. Johns.....	The Texas Co., Jacksonville.
337	Gasoline	58.3	52	25	62	92	97	215	E. M. Johns.....	Standard Oil Co., Bunnell.
338	Gasoline	58.3	48	26	62	92.5	97	215	E. M. Johns.....	Standard Oil Co., Bunnell.
339	Gasoline	58.4	50	26	62	93	97	218	G. B. Hills......	Standard Oil Co., West Palm Beach.
340	Gasoline	58.5	50	26	62	93	97	217	G. B. Hills......	Standard Oil Co., West Palm Beach.
341	Gasoline	59.0	50	27	63	93	97	214	G. B. Hills......	Standard Oil Co., West Palm Beach.
342	Gasoline	58.0	47	36	69	91	97	225	G. B. Hills......	Gulf Refining Co., Fort Lauderdale.
343	Gasoline	58.4	50	27	61	93	97	214	G. B. Hills......	Standard Oil Co., Fort Lauderdale.
344	Gasoline	58.1	50	38	69	91.5	97	220	G. B. Hills......	Gulf Refining Co., Fort Lauderdale.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
345	Gasoline	59.0	46	28	60	91	97	217	W. H. Mapoles..	Standard Oil Co., Cottondale.
346	Gasoline	59.8	46	38	71	93	97	217	W. H. Mapoles..	Gulf Refining Co., Cottondale.
347	Gasoline	59.9	50	40	78	96	97	197	W. H. Mapoles..	Gulf Refining Co., Panama City.
348	Gasoline	59.1	43	30	61	91	97	216	W. H. Mapoles..	Standard Oil Co., Panama City.
349	Gasoline	59.2	45	30	61	92	97	217	W. H. Mapoles..	Standard Oil Co., Panama City.
350	Gasoline	59.9	52	39	75	95.5	97	203	W. H. Mapoles..	Gulf Refining Co., Panama City.
351	Gasoline	58.5	50	25	60	92.5	97	216	W. H. Mapoles..	Standard Oil Co., River Junction.
352	Gasoline	58.6	47	27	63	93	97	212	W. H. Mapoles..	Standard Oil Co., River Junction.
353	Gasoline	58.0	55	23	60	93	98	216	W. H. Mapoles..	Standard Oil Co., Chattahoochee.

354	Gasoline	58.3	51	23	60	93	97	218	W. H. Mapoles..	Standard Oil Co., Chattahoochee.
355	Gasoline	58.3	54	23	61	94	97	211	W. H. Mapoles..	Standard Oil Co., Chattahoochee.
356	Gasoline	59.4	46	30	61	91	97	222	W. H. Mapoles..	Standard Oil Co., Mt. Pleasant.
357	Gasoline	59.0	51	27	64	93	97	214	G. B. Hills......	Standard Oil Co., Miami.
358	Gasoline	59.3	50	33	68	93	96.5	214	G. B. Hills......	The Texas Co., Miami.
359	Gasoline	59.3	52	33	71	94	97	208	G. B. Hills......	The Texas Co., Miami.
360	Gasoline	59.3	52	33	71	94	97	210	G. B. Hills......	The Texas Co., Miami.
361	Gasoline	58.0	47	40	69	91.5	97	223	G. B. Hills......	Gulf Refining Co., Miami Beach.
362	Gasoline	57.7	53	34	67	91	97	225	G. B. Hills......	Gulf Refining Co., Miami Beach.
363	Gasoline	59.2	55	34	70	94	97	211	E. M. Johns.....	Standard Oil Co., Seabreeze.
364	Gasoline	58.5	50	26	62	92	97	218	E. M. Johns.....	Standard Oil Co., Daytona Beach.
365	Gasoline	59.7	48	33	67	92	97	220	E. M. Johns.....	Gulf Refining Co., Daytona Beach.
366	Gasoline	58.8	48	27	62	92	97	216	E. M. Johns.....	Standard Oil Co., Daytona.
367	Gasoline	58.8	48	28	63	93	97	211	E. M. Johns.....	Standard Oil Co., Daytona.
368	Gasoline	58.5	52	25	61	93	97	219	E. M. Johns.....	Standard Oil Co., Daytona.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
369	Gasoline	59.2	48	29	64	92	97	216	W. H. Mapoles..	Standard Oil Co., Tallahassee.
370	Gasoline	58.2	47	37	67	92	97	222	W. H. Mapoles..	Gulf Refining Co., Tallahassee.
371	Gasoline	59.3	52	35	70	94	97	207	W. H. Mapoles..	The Texas Co., Tallahassee.
372	Gasoline	59.3	45	28	65	92	97	223	W. H. Mapoles..	Standard Oil Co., Quincy.
373	Gasoline	59.3	50	30	67	92	97	214	W. H. Mapoles..	Standard Oil Co., Quincy.
374	Gasoline	59.2	48	28	65	93	97	221	W. H. Mapoles..	Standard Oil Co., Quincy.
375	Gasoline	59.2	48	29	64	92	97	221	W. H. Mapoles..	Standard Oil Co., Quincy.
376	Gasoline	59.3	47	30	63	92	97	220	W. H. Mapoles..	Standard Oil Co., Quincy.
377	Gasoline	58.5	48	28	63	93	97	218	W. H. Mapoles..	Standard Oil Co., Quincy.

378	Gasoline	59.3	48	30	64	92	97	218	W. H. Mapoles..	Standard Oil Co., Havana.
379	Gasoline	59.3	49	30	62	92	97	219	W. H. Mapoles..	Standard Oil Co., Havana.
380	Gasoline	59.3	52	33	69	93	97	217	W. H. Mapoles..	Gulf Refining Co., Havana.
381	Gasoline	59.9	45	36	70	92	96.5	221	E. M. Johns.....	Gulf Refining Co., Cedar Key.
382	Gasoline	58.1	46	26	62	93	97.5	216	E. M. Johns.....	Standard Oil Co., Cedar Key.
383	Gasoline	58.4	50	26	63	92	97	216	E. M. Johns.....	Standard Oil Co., Bronson.
384	Gasoline	59.3	52	33	69	93	97	214	E. M. Johns.....	The Texas Co., Archer.
385	Gasoline	57.0	30	18	32	82	94	224	E. M. Johns.....	Triangle Sales Co., Palatka.
386	Gasoline	57.0	30	18	33	83	94	220	E. M. Johns.....	Triangle Sales Co., Palatka.
387	Gasoline	59.8	52	39	75	96	97.5	203	G. B. Hills......	Gulf Refining Co., Key West.
388	Gasoline	59.5	48	34	69	92	97	219	G. B. Hills......	Gulf Refining Co., Key West.
389	Gasoline	58.7	50	27	62	92	97	220	G. B. Hills......	Standard Oil Co., Key West.
390	Gasoline	58.5	49	27	62	93	97	214	G. B. Hills......	Standard Oil Co., Key West.
391	Gasoline	58.6	50	26	63	93	97	212	G. B. Hills......	Standard Oil Co., Key West.
392	Gasoline	58.6	50	28	64	92	97	218	G. B. Hills......	Standard Oil Co., Key West.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
393	Gasoline	59.3	52	38	74	94.5	97	211	W. H. Mapoles..	Gulf Refining Co., Apalachicola.
394	Gasoline	60.1	44	33	64	91	97	220	W. H. Mapoles..	Standard Oil Co., Apalachicola.
395	Gasoline	59.3	50	38	75	94.5	97	209	W. H. Mapoles..	Gulf Refining Co., Apalachicola.
396	Gasoline	59.5	48	38	73	94	97	210	W. H. Mapoles..	Gulf Refining Co., Hosford.
397	Gasoline	58.5	48	27	64	93	97	214	W. H. Mapoles..	Standard Oil Co., Telogia.
398	Gasoline	58.8	50	27	61	93	97	215	W. H. Mapoles..	Standard Oil Co., Telogia.
399	Gasoline	60.0	44	40	70	93	97	212	E. M. Johns.....	Gulf Refining Co., Cedar Key.
400	Gasoline	58.8	50	27	61	92	97	225	E. M. Johns.....	Standard Oil Co., Bronson.
401	Gasoline	59.2	45	28	64	93	97	218	E. M. Johns.....	Standard Oil Co., Jacksonville.

402	Gasoline	59.2	48	39	72	93.5	97	212	E. M. Johns.....	Gulf Refining Co., Fernandina.
403	Gasoline	59.0	53	34	70	95	97	207	E. M. Johns.....	The Texas Co., Fernandina.
404	Gasoline	58.8	50	25	59	92	96	216	E. M. Johns.....	Standard Oil Co., Fernandina.
405	Gasoline	59.1	49	28	66	92	97	215	W. H. Mapoles..	Standard Oil Co., Chaires.
406	Gasoline	58.1	50	35	67	92	97	219	W. H. Mapoles..	Gulf Refining Co., Lloyd.
407	Gasoline	58.3	49	38	68	92	97	220	W. H. Mapoles..	Gulf Refining Co., Lloyd.
408	Gasoline	58.3	50	27	62	92.5	97	214	W. H. Mapoles..	Standard Oil Co., Monticello.
409	Gasoline	58.6	52	25	61	92	96	217	W. H. Mapoles..	Standard Oil Co., Monticello.
410	Gasoline	58.6	50	26	62	92	97	215	W. H. Mapoles..	Standard Oil Co., Monticello.
411*	Gasoline	80.0	25	79	87	XXX	XX	170	W. H. Mapoles..	Hickok Producing Co., Tallahassee.
412	Gasoline	58.6	48	44	76	95	97	206	G. B. Hills......	Gulf Refining Co., Port Tampa.
413	Gasoline	57.9	49	41	74	94	97	218	G. B. Hills......	Gulf Refining Co., Port Tampa.
414	Gasoline	58.5	47	51	79	95	97	200	G. B. Hills......	Gulf Refining Co., Tampa.
415	Gasoline	58.1	54	32	67	93	97	216	G. B. Hills......	The Texas Co., Tampa.
416	Gasoline	58.5	50	26	61	92	96	221	G. B. Hills......	Standard Oil Co., Tampa.

* This gasoline sold for the manufacture of gas.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
417	Gasoline	58.9	50	42	77	95	97	204	G. B. Hills......	Gulf Refining Co., Tampa.
418	Gasoline	58.5	54	26	62	92	97	220	W. H. Mapoles..	Standard Oil Co., Madison.
419	Gasoline	58.5	53	25	61	92	96	220	W. H. Mapoles..	Standard Oil Co., Madison.
420	Gasoline	58.5	52	25	62	93	97	218	W. H. Mapoles..	Standard Oil Co., Madison.
421	Gasoline	58.5	54	26	61	92	97	218	W. H. Mapoles..	Standard Oil Co., Madison.
422	Gasoline	58.2	50	25	60	91	96.5	224	W. H. Mapoles..	Standard Oil Co., Madison.
423	Gasoline	58.6	45	27	60	91.5	96	215	W. H. Mapoles..	Standard Oil Co., Madison.
424	Gasoline	58.6	51	26	64	93	97	214	E. M. Johns.....	Standard Oil Co., Hampton.
425	Gasoline	58.6	52	28	64	93	97	218	E. M. Johns.....	Standard Oil Co., Waldo.

426	Gasoline	58.8	52	27	64	93	97	219	E. M. Johns.....	Standard Oil Co., Waldo.
427	Gasoline	57.7	55	23	62	92	97	220	E. M. Johns.....	Standard Oil Co., Fairbanks.
428	Gasoline	58.3	48	41	68	92	97	221	E. M. Johns.....	Gulf Refining Co., Gainesville.
429	Gasoline	58.3	48	37	70	92	97	218	E. M. Johns.....	Gulf Refining Co., Gainesville.
430	Gasoline	58.9	45	27	63	92	97	220	E. M. Johns.....	Standard Oil Co., South Jacksonville.
431	Gasoline	59.0	43	28	62	92	96	215	E. M. Johns.....	Standard Oil Co., South Jacksonville.
432	Gasoline	58.8	44	28	62	92	97	217	E. M. Johns.....	Standard Oil Co., South Jacksonville.
433	Gasoline	58.9	43	27	62	92	97	215	E. M. Johns.....	Standard Oil Co., South Jacksonville.
434	Gasoline	58.8	44	27	62	92	97	214	E. M. Johns.....	Standard Oil Co., South Jacksonville.
435	Gasoline	58.8	44	27	61	92	97	217	E. M. Johns.....	Standard Oil Co., South Jacksonville.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. SPECIAL GASOLINE ANALYSES, 1920. E. T. CASLER, Asst. Chemist.

Samples Sent in by Citizens Under Act Approved June 4, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
1	Gasoline	57.0	50	28	60	**89**	97	**228**	C. C. Hose......	Gulf Refining Co., Carrabelle.
2	Gasoline	60.1	47	42	75	95	97	212	C. C. Hose......	Gulf Refining Co., Carrabelle.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. OFFICIAL KEROSENE ANALYSES, 1920. E. T. CASLER, Asst. Chemist.

Samples Taken by State Inspectors Under Act Approved June 4, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
9	Kerosene..	124	2.0	44.0	E. M. Johns..	Gulf Refining Co., Fernandina.
10	Kerosene..	125	2.0	43.0	E. M. Johns..	Gulf Refining Co., St. Augustine.
11	Kerosene..	115	1.6	44.0	E. M. Johns..	Standard Oil Co., Hastings.
12	Kerosene..	145	3.0	41.7	E. M. Johns..	The Texas Co., Palatka.
13	Kerosene..	115	1.8	44.0	E. M. Johns..	Standard Oil Co., Lake Butler.
14	Kerosene..	118	1.9	44.0	E. M. Johns..	Standard Oil Co., Lake Butler.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
15	Kerosene..	85	1.2	48.0	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
16	Kerosene..	84.5	1.2	48.0	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
17	Kerosene..	85	1.3	48.0	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
18	Kerosene..	85	1.2	48.0	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
19	Kerosene..	119	1.8	44.0	W. H. Mapoles	Standard Oil Co., Blountstown.
20	Kerosene..	119	1.8	44.0	W. H. Mapoles	Standard Oil Co., Telogia.
21	Kerosene..	119	1.7	44.0	W. H. Mapoles	Standard Oil Co., Apalachicola.
22	Kerosene..	122	2.0	44.0	W. H. Mapoles	Gulf Refining Co., Apalachicola.

23	Kerosene..	120	1.8	44.0	E. M. Johns..	Standard Oil Co., Raiford.
24	Kerosene..	116	1.6	44.0	E. M. Johns..	Standard Oil Co., Raiford.
25	Kerosene..	116	1.5	44.0	E. M. Johns..	Standard Oil Co., Baldwin.
26	Kerosene..	112	1.5	44.0	E. M. Johns..	Standard Oil Co., Macclenny.
27	Kerosene..	112	1.5	44.0	G. B. Hills....	Standard Oil Co., Tampa.
28	Kerosene..	115	1.6	44.0	G. B. Hills....	Standard Oil Co., Tampa.
29	Kerosene..	114	1.6	44.0	G. B. Hills....	Standard Oil Co., Tampa.
30	Kerosene..	117	1.7	44.0	G. B. Hills....	Standard Oil Co., Tampa.
31	Kerosene..	118	1.6	44.0	W. H. Mapoles	Standard Oil Co., Lake City.
32	Kerosene..	119	1.7	44.0	G. B. Hills....	Standard Oil Co., Port Tampa.
33	Kerosene..	119	1.7	44.0	G. B. Hills....	Standard Oil Co., Port Tampa.
34	Kerosene..	123	1.8	44.0	G. B. Hills....	Standard Oil Co., Port Tampa.
35	Kerosene..	138	2.4	40.7	E. M. Johns..	The Texas Co., Jacksonville.
36	Kerosene..	117	1.5	44.6	E. M. Johns..	Standard Oil Co., Bunnell.
37	Kerosene..	122	1.8	42.8	E. M. Johns..	Gulf Refining Co., Daytona.
38	Kerosene..	117	1.5	42.8	E. M. Johns..	Standard Oil Co., Daytona Beach.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	"Tag" Closed Tester Not Below 100	6	.....		
39	Kerosene..	117	1.6	44.0	E. M. Johns..	Standard Oil Co., Daytona.
40	Kerosene..	115	1.5	44.0	E. M. Johns..	Standard Oil Co., New Smyrna.
41	Kerosene..	120	1.6	44.0	E. M. Johns..	Gulf Refining Co.; New Smyrna.
42	Kerosene..	117	1.6	44.5	E. M. Johns..	Standard Oil Co., New Smyrna.
43	Kerosene..	96	1.4	45.7	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
44	Kerosene..	101	1.5	44.7	E. M. Johns..	Anglo-Mexican Petroleum Co., Ltd., Jacksonville.
45	Kerosene..	117	1.6	43.7	W. H. Mapoles	Standard Oil Co , Pensacola.
46	Kerosene..	120	1.8	43.4	W. H. Mapoles	Gulf Refining Co., Pensacola.

47	Kerosene..	115	1.6	44.0	E. M. Johns..	Standard Oil Co., Archer.
48	Kerosene..	115	1.6	44.0	E. M. Johns..	Standard Oil Co., Williston.
49	Kerosene..	110	1.5	43.9	G. B. Hills....	Gulf Refining Co., Tampa.
50	Kerosene..	106	1.5	43.9	G. B. Hills....	Gulf Refining Co., Tampa.
51	Kerosene..	114	1.6	43.7	E. M. Johns..	Standard Oil Co., Cedar Key.
52	Kerosene..	118	1.6	43.5	E. M. Johns..	Gulf Refining Co., Cedar Key.
53	Kerosene..	117	1.6	44.1	E. M. Johns..	Standard Oil Co., Bronson.
54	Kerosene..	111	1.5	43.7	G. B. Hills....	Standard Oil Co., Sarasota.
55	Kerosene..	112	1.5	43.7	G. B. Hills....	Standard Oil Co., Bradentown.
56	Kerosene..	115	1.4	44.7	W. H. Mapoles	Standard Oil Co., DeFuniak.
57	Kerosene..	116	1.4	44.7	W. H. Mapoles	Standard Oil Co., DeFuniak.
58	Kerosene..	121	1.7	43.6	E. M. Johns..	Gulf Refining Co., Titusville.
59	Kerosene..	118	1.6	44.4	E. M. Johns..	Standard Oil Co., Cocoa.
60	Kerosene..	112	1.5	44.0	G. B. Hills....	Standard Oil Co., Palmetto Beach.
61	Kerosene..	128	2.0	41.3	G. B. Hills....	The Texas Co., Sulphur Springs.
62	Kerosene..	124	1.7	43.6	E. M. Johns..	Gulf Refining Co., Jacksonville.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
63	Kerosene..	136	2.0	41.4	E. M. Johns..	Standard Oil Co., Jacksonville.
64	Kerosene..	113	1.5	43.6	G. B. Hills....	The Texas Co., St. Petersburg.
65	Kerosene..	112	1.6	43.7	G. B. Hills....	Standard Oil Co., St. Petersburg.
66	Kerosene..	82	1.6	44.0	W. H. Mapoles	Standard Oil Co., Milton.
67	Kerosene..	114	1.6	44.0	W. H. Mapoles	Standard Oil Co., Milton.
68	Kerosene..	104	1.5	44.4	G. B. Hills....	Gulf Refining Co., Tarpon Springs.
69	Kerosene..	104	1.5	44.4	G. B. Hills....	Gulf Refining Co., Tarpon Springs.
70	Kerosene..	115	1.6	43.7	E. M. Johns..	Standard Oil Co., Alachua.

71	Kerosene..	118	1.6	44.3	E. M. Johns..	Standard Oil Co., Newberry.
72	Kerosene..	110	1.5	44.0	G. B. Hills....	The Texas Co., Tampa.
73	Kerosene..	107	1.5	44.1	G. B. Hills....	Gulf Refining Co., Tampa.
74	Kerosene..	121	1.5	44.6	W. H. Mapoles	Standard Oil Co., Chipley.
75	Kerosene..	122	1.7	43.7	W. H. Mapoles	Gulf Refining Co., Chipley.
76	Kerosene..	115	1.6	44.1	W. H. Mapoles	Standard Oil Co., Marianna.
77	Kerosene..	115	1.6	44.2	W. H. Mapoles	Standard Oil Co., Marianna.
78	Kerosene..	104	1.5	44.1	E. M. Johns..	Gulf Refining Co., Orlando.
79	Kerosene..	139	2.2	41.1	E. M. Johns..	The Texas Co., Sanford.
80	Kerosene..	117	1.7	44.4	W. H. Mapoles	Standard Oil Co., Graceville.
81	Kerosene..	117	1.6	44.1	W. H. Mapoles	Standard Oil Co., Greenwood.
82	Kerosene..	103	1.5	44.5	G. B. Hills....	Gulf Refining Co., Port Tampa.
83	Kerosene..	116	1.7	43.8	G. B. Hills....	Standard Oil Co., Port Tampa.
84	Kerosene..	117	1.6	43.8	E. M. Johns..	Standard Oil Co., Bushnell.
85	Kerosene..	118	1.6	43.8	E. M. Johns..	Standard Oil Co., Brooksville.
86	Kerosene..	115	1.6	43.7	G. B. Hills....	Standard Oil Co., Dade City.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
87	Kerosene..	109	1.6	43.7	G. B. Hills....	Standard Oil Co., Trilby.
88	Kerosene..	112	1.5	43.9	E. M. Johns..	Standard Oil Co., Inverness.
89	Kerosene..	119	1.5	44.2	E. M. Johns..	Standard Oil Co., Dunellon.
90	Kerosene..	112	1.5	44.2	W. H. Mapoles	Standard Oil Co., Blountstown.
91	Kerosene..	118	1.3	44.5	W. H. Mapoles	Standard Oil Co., Laurel Hill.
92	Kerosene..	117	1.5	44.3	E. M. Johns..	Standard Oil Co., Jacksonville.
93	Kerosene..	118	1.8	43.6	E. M. Johns..	Gulf Refining Co., Jacksonville.
94	Kerosene..	103	1.5	44.3	E. M. Johns..	Gulf Refining Co., Leesburg.

95	Kerosene	118	1.7	43.8	E. M. Johns	Standard Oil Co., Eustis.
96	Kerosene	122	1.6	43.5	W. H. Mapoles	Gulf Refining Co., Molino.
97	Kerosene	120	1.7	43.3	W. H. Mapoles	Gulf Refining Co., McDavid.
98	Kerosene	116	1.4	44.4	W. H. Mapoles	Standard Oil Co., Century.
99	Kerosene	120	1.7	43.4	W. H. Mapoles	Gulf Refining Co., Munson.
100	Kerosene	108	1.5	44.0	G. B. Hills	Gulf Refining Co., Moore Haven.
101	Kerosene	117	1.7	43.7	G. B. Hills	Standard Oil Co., Sebring.
102	Kerosene	110	1.6	43.6	G. B. Hills	Standard Oil Co., Frostproof.
103	Kerosene	110	1.6	43.7	G. B. Hills	Standard Oil Co., Avon Park.
104	Kerosene	134	2.2	41.3	E. M. Johns	The Texas Co., Jacksonville.
105	Kerosene	118	1.6	44.5	E. M. Johns	Standard Oil Co., St. Augustine.
106	Kerosene	113	1.5	44.5	E. M. Johns	Standard Oil Co., Hastings.
107	Kerosene	117	1.6	43.9	E. M. Johns	Standard Oil Co., Palatka.
108	Kerosene	110	1.6	43.9	G. B. Hills	Standard Oil Co., Clearwater.
109	Kerosene	101	1.5	44.4	G. B. Hills	Gulf Refining Co., St. Petersburg.
110	Kerosene	117	1.7	43.8	G. B. Hills	Standard Oil Co., Tampa.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
111	Kerosene..	105	1.5	44.2	G. B. Hills....	Gulf Refining Co., Tampa.
112	Kerosene..	115	1.5	44.2	W. H. Mapoles	Standard Oil Co., Crestview.
113	Kerosene..	112	1.5	44.1	W. H. Mapoles	Standard Oil Co., Holt.
114	Kerosene..	115	1.5	44.3	E. M. Johns..	Standard Oil Co., Anthony.
115	Kerosene..	117	1.5	44.3	E. M. Johns..	Standard Oil Co., Citra.
116	Kerosene..	120	1.6	43.9	E. M. Johns..	Standard Oil Co., Ocala.
117	Kerosene..	110	1.5	44.4	E. M. Johns..	Standard Oil Co., Hawthorne.
118	Kerosene..	120	1.7	43.5	G. B. Hills....	Gulf Refining Co., Fort Pierce.

119	Kerosene..	119	1.5	44.4	G. B. Hills....	Standard Oil Co., Fort Pierce.
120	Kerosene..	116	1.5	44.4	E. M. Johns..	Standard Oil Co., Bunnell.
121	Kerosene..	116	1.5	44.4	E. M. Johns..	Standard Oil Co., Bunnell.
122	Kerosene..	116	1.5	44.4	G. B. Hills....	Standard Oil Co., West Palm Beach.
123	Kerosene..	119	1.6	44.3	G. B. Hills....	Gulf Refining Co., Fort Lauderdale.
124	Kerosene..	121	1.7	43.6	W. H. Mapoles	Gulf Refining Co., Cottondale.
125	Kerosene..	110	1.6	44.0	W. H. Mapoles	Gulf Refining Co., Panama City.
126	Kerosene..	116	1.6	44.2	W. H. Mapoles	Standard Oil Co., River Junction.
127	Kerosene..	114	1.5	44.4	W. H. Mapoles	Standard Oil Co., Mt. Pleasant.
128	Kerosene..	134	2.2	40.9	G. B. Hills....	The Texas Co., Miami.
129	Kerosene..	105	1.4	45.1	G. B. Hills....	Gulf Refining Co., Miami Beach.
130	Kerosene..	116	1.5	44.4	E. M. Johns..	Standard Oil Co., Daytona Beach.
131	Kerosene..	126	1.7	43.1	E. M. Johns..	Gulf Refining Co., Daytona Beach.
132	Kerosene..	120	1.7	44.2	W. H. Mapoles	Standard Oil Co., Tallahassee.
133	Kerosene..	118	1.9	43.3	W. H. Mapoles	Gulf Refining Co., Tallahassee.
134	Kerosene..	117	1.5	44.4	W. H. Mapoles	Standard Oil Co., Quincy.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
135	Kerosene..	134	2.0	41.0	W. H. Mapoles	The Texas Co., Tallahassee.
136	Kerosene..	118	3.6	43.3	E. M. Johns..	Gulf Refining Co., Cedar Key.
137	Kerosene..	108	1.8	44.5	E. M. Johns..	Standard Oil Co., Bronson.
138	Kerosene..	112	3.4	43.9	G. B. Hills....	Gulf Refining Co., Key West.
139	Kerosene..	119	2.6	44.3	G. B. Hills....	Standard Oil Co., Key West.
140	Kerosene..	122	2.0	44.5	W. H. Mapoles	Standard Oil Co., Apalachfcola.
141	Kerosene..	108	3.4	44.1	W. H. Mapoles	Gulf Refining Co., Apalachicola.
142	Kerosene..	122	3.4	43.4	E. M. Johns..	Gulf Refining Co., Fernandina.

143	Kerosene..	135	2.0	41.1	E. M. Johns..	The Texas Co., Fernandina.
144	Kerosene..	113	2.2	44.0	W. H. Mapoles	Standard Oil Co., Chaires.
145	Kerosene..	117	3.2	42.5	W. H. Mapoles	Gulf Refining Co., Lloyd.
146	Kerosene..	98	3.0	44.0	G. B. Hills....	Gulf Refining Co., Port Tampa.
147	Kerosene..	130	2.0	41.0	G. B. Hills....	The Texas Co., Tampa.
148	Kerosene..	119	1.8	44.5	W. H. Mapoles	Standard Oil Co., Madison.
149	Kerosene..	118	1.8	44.6	W. H. Mapoles	Standard Oil Co., Madison.
150	Kerosene..	123	2.0	44.6	E. M. Johns..	Standard Oil Co., Waldo.
151	Kerosene..	117	1.8	44.5	E. M. Johns..	Standard Oil Co., Gainesville.
152	Kerosene..	119	1.2	44.4	E. M. Johns..	Standard Oil Co., South Jacksonville.
153	Kerosene..	118	3.0	43.4	E. M. Johns..	Gulf Refining Co., South Jacksonville.

Volume 30 Number 3

FLORIDA QUARTERLY BULLETIN

OF THE

AGRICULTURAL DEPARTMENT

JULY 1, 1920

W. A. McRAE

COMMISSIONER OF AGRICULTURE

TALLAHASSEE FLA.

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PART I—Biography of H. S. Elliot, Deceased June 24, 1920. Some Principal Fibre Bearin[illegible] Florida. Live Stock—Outbreak[illegible]s from July 1, 1919 to [illegible]ed by Months, Same P[illegible] Destroy the Rats. Federal [illegible] wheat and Corn Production Shows Increase.
PART II—Crop Reports.
PART III—Rules and Regulations, Analyses.

Entered January 31, 1903, at Tallahassee, Florida, as second-class matter under Act of Congress of June, 1900.
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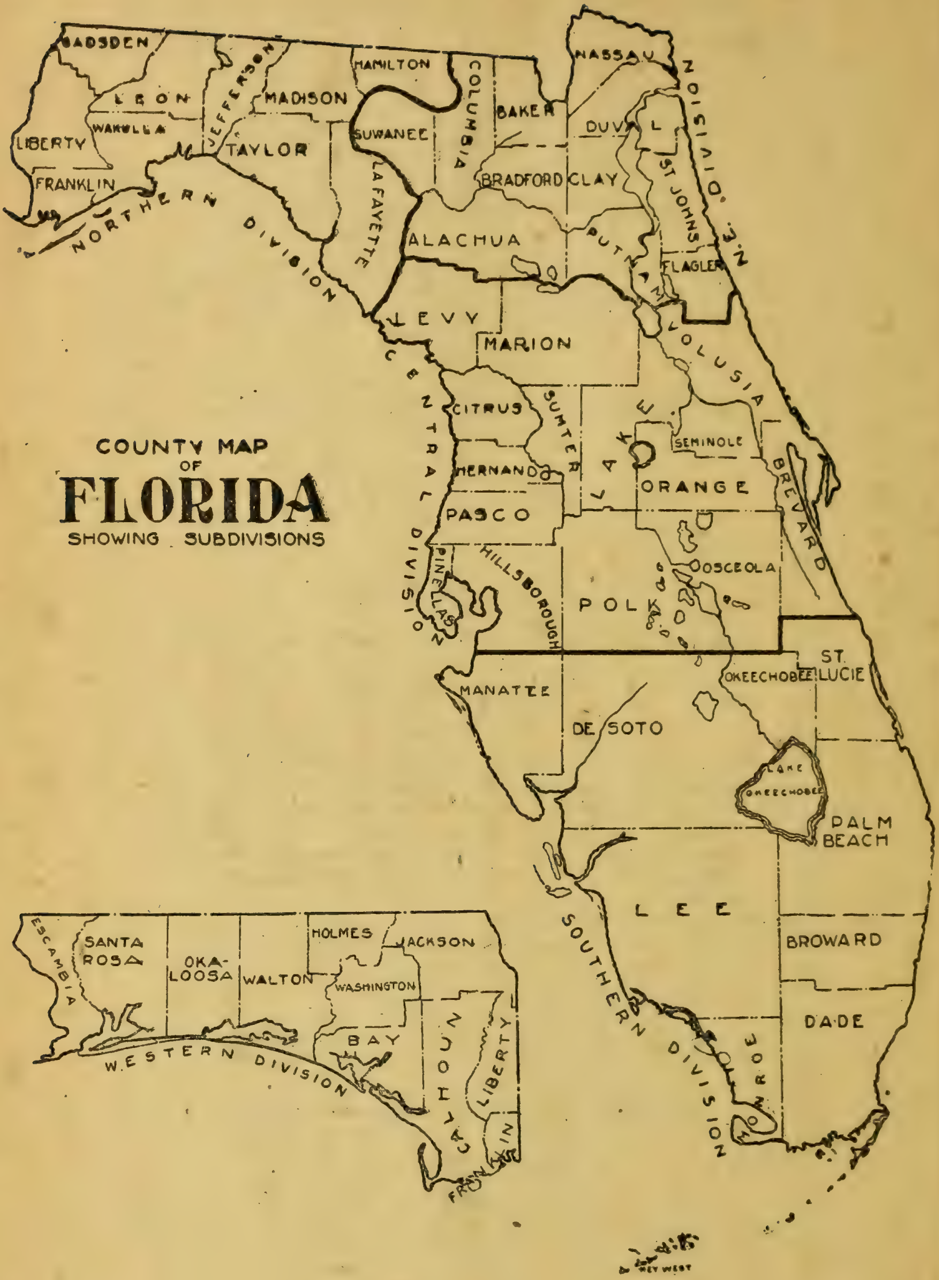

COUNTY MAP OF FLORIDA SHOWING SUBDIVISIONS

PART I

Biography of H. S. Elliot, Deceased June 24, 1920.

Some Principal Fibre Bearing Plants of Florida.

Live Stock—Outbreaks of Cholera by Counties from July 1, 1919 to June 30, 1920. Number Hogs Treated by Months, Same Period; Tick Eradication. Destroy the Rats. Federal Forcasts of Wheat and Corn Production Shows Increase.

TO THE READERS OF THE QUARTERLY BULLETIN:

On account of the death of my Chief Clerk, Mr. H. S. Elliot, who was also Chief Clerk of the Division of Agriculture and Immigration, and who was entrusted with the work of getting out the Quarterly Bulletin, this issue of the Bulletin will appear a few days late.

I am sure the readers of the Quarterly Bulletin will overlook this under this condition, and we hope to have it appear on time at the end of the ensuing quarter.

Very respectfully,
W. A. McRAE,
Commissioner of Agriculture.

H. S. ELLIOT.

The Department of Agriculture announces with sorrow the death, on June 24th, 1920, of Mr. H. S. Elliot, who had long been associated with this Department as its Chief Clerk.

In view of the long, faithful and efficient service rendered, and the influence exerted in shaping and in developing the work of the Agricultural Department by Mr. Elliot, the Department deems it appropriate and fitting that a short sketch be given of his life and his work with the Department, and also in some small but earnest way pay tribute to the splendid service rendered to the people of this State by a devoted, unselfish worker and profound believer in a great agricultural Florida.

Henry S. Elliot was born in Nashville, Tenn., February 22, 1848. The greater part of his boyhood was spent on the home farm in Green County, Tennessee. He attended Colonel Lee's School at Asheville, N. C., where he was at the outbreak of the Civil War. The young lad, together with others, ran away from school in 1862 and joined the forces of the Confederacy. He saw active service under Jackson and Lee in the battles of the Wilderness, of Seven Pines, of Spottsylvania, and was with Lee's forces at the close of the war.

School was resumed after the war, and in 1868 Mr. Elliot developed the usual wanderlust of young manhood and traveled through the extreme north section of the United States and through Eastern Canada. In 1869 he went to Savannah and became connected with the drug business in that city. He came to Florida with his parents and brothers and sisters in 1872. The journey was made to Florida by private conveyance, driving through by way of King's Ferry on the St. Mary's River. The family established themselves at Gainesville, Fla.

As a young man Mr. Elliot traveled over practically the entire State, making numerous journeys with horse and buggy or on horseback. In this way he became familiar, at first hand, with the agricultural, topographical, geological and other characteristics of the State. He was well versed in the principles of Geology and was an expert in quick and accurate classification of soils. His memory for places, dates and circumstances was remarkable, and it was largely these traits and talents, together with his deep interest in the agricultural welfare of his chosen State, that became of such great value in his work for Florida at a later time.

In 1876 Mr. Elliot was married to Miss Sallie Cotten, of Tallahassee, and thereafter made Tallahassee his home.

Early in 1889 Mr. Elliot became connected with that branch of the State Government which is now known as the Department of Agriculture, but was then the Department of Lands and Immigration. Immediately upon taking up his work he realized the necessity of expanding and broadening the Department in order that it could become of real service in developing the agricultural resources of the State. He prepared the bill, which was promptly enacted into law by the Legislature, creating the Department of Agriculture, creating the office of State Chemist as a branch of and under the direction of the Department of Agriculture, and the Bureau of Immigration, also under the direction of this Department. By this law the administration of the Department was vested in the Commissioner of Agriculture. The powers and duties of the Department were greatly broadened and enlarged, with ample provision for handling the many branches and the extensive work of that

Department of the State Government having to do with the most important and essential industry of the State and of the Nation—agriculture.

Mr. Elliot was peculiarly fitted by training and study for the work which he performed. He had a broad knowledge of the manifold aspects of the practical side of the subject, and was an authority on the economic questions and considerations affecting the welfare of agricultural pursuits. As a statistician and compiler of agricultural data, and in forecasting crop conditions and yields, his work was of great value and was accurate and trustworthy. Another characteristic which may be mentioned, because developed in a remarkable degree and as bearing in another way upon the subject of agriculture, was his ability for observing and interpreting signs of the weather and of accurately forecasting weather conditions.

The work done by Mr. Elliot in his more than thirty years of service for Florida is of lasting value to the people of this State. His reward is the reward of service well performed. In his death the State loses a valuable citizen, a devoted worker for its welfare, a firm believer in the great possibilities of Florida, and a man of the old type, not now common to our present time.

SOME PRINCIPAL FIBRE-BEARING PLANTS OF FLORIDA.

The fire-bearing plants capable of successful and profitable cultivation in this State are in great variety, comprising practically, if not quite, all the fibres (or an equally good substitute for them) that are imported into the United States annually. The United States—particularly the South—is probably the largest consumer of long fibres in the form of jute, used in handling the cotton crop and its products, of all other countries in the entire world. It is also the largest consumer of long fibre in the form of binder twine, used in harvesting and handling of the grain crops of the country, and in manufacture and use of certain kinds of bagging, rope, twine, etc.

In Florida, climatic conditions, such as temperature, humidity, regular supply of moisture, and also soil, favor in the highest degree the growing of these plants to as great perfection as that of any country in the world. This statement is fully confirmed by the unqualified success of repeated experiments throughout a period of sixty-odd years. Indeed, there are many of them that need no experimenting, their natural and perfect adaptability to soil, climate, and every other condition, being demonstrated by the unfailing and vigorous growth made in their wild, uncultivated state.

Following is a list of the fibre plants which thrive in Florida, with a brief description of them and their uses, as far as known:

AGAVE SISALANA—SISAL HEMP—HENEQUEN PLANT.

This is used for the same purpose generally as Manilla Hemp. The plant is found growing in nearly all parts of Florida south of the 28th degree of latitude, and it frequently matures as far north as Jacksonville, and as far west as the Apalachicola River. As it does not stand very cold weather, it would not be safe to plant it commercially north of the line above mentioned. The plant was introduced into Florida in the year 1836-37 by Dr. Henry Perrine, who had formerly been United States Consul at Campeachy. He had obtained a grant of land from the United States for the purpose of introducing and experimenting with tropical plants. This grant of land was located a few miles south of Miami, and is known as the Perrine Grant. He was never able to carry into effect his project, as he was killed by the Indians in the Indian Key massacre in 1840.

The Agave Sisalana will grow and thrive in nearly all varieties of Florida soils, but it is generally believed that the poorer sandy soil is best adapted to the cultivation of this plant, because of the superiority of the fibre over that grown on rich soils. The life of the plant in which it yields profitably is about fifteen years. It is easy of cultivation and very inexpensive. It has no known enemies, and is unaffected by drought or excessive rainfall, and requires no fertilization.

SANSEVIERIA—BOWSTRING HEMP.

This plant is found growing in nearly all parts of Florida, principally in gardens, as an ornamental plant. Its value as a fibre-producing plant is not generally known. It is commonly recognized as Rattlesnake Lily or Spotted Lily; makes rapid growth in suitable soil; spreads rapidly; and completely takes possession of the soil in a short time. The plant has been known and prized in India from remote antiquity under the name of Murva. The Sansevieria abounds on the coast of Guinea, around Ceylon, and the Bay of Bengal, extending even to the coast of Java and China. The plants are easily propagated, and grow with ease, practically taking care of themselves. Of the several varieties, the Sansevieria is the best to cultivate for fibre. The fibre is capable of being manufactured into anything—from the heaviest cordage to the finest fabric for dress goods, and is considered equal to many of the finest silks in beauty and fineness of texture. It grows with perfect ease and success in the same latitude as Sisal Hemp, and can be grown safely much further north. It is one of the most valuable of all the fibre-bearing plants, and is thoroughly adapted to the soil and climate of Florida.

BROMELIA SYLVESTRIS—WILD PINEAPPLE.

This plant is found growing abundantly in Mexico, Central and South America and the West Indies. It thrives upon poor, barren, sandy or rocky soils, grows rapidly, and produces leaves as much as twelve feet in length. The leaf is identical in shape with the pineapple leaf. The plant is propagated by suckers, as is the pineapple. Except as an experiment it has not been grown on Florida soil, but it succeeded perfectly. The length of the fibre makes it very valuable, and of superior strength. It is much lighter than hemp, and said to possess a greater average strength by four times than hemp.

PINEAPPLE FIBRE.

Cultivation of the pineapple began in Florida about fifty years ago on the keys of the East Coast, near Biscayne Bay. Production continued to increase until it has become one of the most profitable and important of the

Florida fruit industries. It is now grown on the keys and East Coast from Biscayne Bay, north to upper Indian River, in Lee, DeSoto and Manatee Counties, the Lake region of Polk County, in Hillsborough, Orange and Osceola Counties, and also other parts of South Florida.

It is generally understood that the leaves of the plant contain a fine fibre of great value, and is even now being used in the manufacture of various fabrics. Thousands of tons of these leaves go to waste every year that could be utilized for valuable purposes. After the fruit has been removed, the leaves of the pineapple are of no value to the plant, and using them for fibre is utilizing a waste product for a valuable purpose. In a report by the United States, we find the following:

"The fibre of the pineapple is very soft and fine, the filaments being quite flexible and resistant. In the East Indies, where the pineapple was introduced as early as 1600, the fibre is extensively used in the manufacture of a delicate fabric called pina, as well as for cordage. Pina is considered to be more delicate in texture than any other known to the vegetable kingdom."

The fibre is long, exceedingly fine, and of great strength; the natural color is whitish-blue, or flaxen, but is susceptible to dyeing processes. It is also adapted to the manufacture of various yarns and webs, and a beautiful silk-like fabric has been produced therefrom. Undoubtedly the pineapple plant could be cultivated for its fibre alone, but when the value of the fruit is considered, in addition, at once it becomes most valuable to commerce.

URENA LOBATA—FLORIDA JUTE.

This plant is indigenous to Florida soil and climate, and is found growing wild and uncultivated in nearly every portion of the State. It is commonly known as "Caesar Weed," and termed by some people "French Cockle Burr." This plant produces an excellent fibre, which is found in the bark of the plant, and belongs to that class known as bast fibres, such as jute, ramie etc. The fibre is long, firm, soft, nearly white, with a silken lustre. In the opinion of competent judges, it will make an excellent substitute for flax. This plant, in common with many other Florida weeds, grows up in the early spring and summer months and dies down in the fall. As a fibre-producing plant it is one of great merit.

BOEHMERIA NIVEA—RAMIE.

This plant was first introduced into the United States from China about the year 1855. It is said to have been cultivated in China and Egypt over four thousand years ago, and that fine fabrics were woven of its fibre at that time. This fact is proven by the discovery of Egyptian cerements used in the wrappings of mummies. It has also been cultivated in Japan, Java, Borneo, Sumatra, and the East Indies, whence it has been introduced into other countries during the last century. Ramie is also known as China grass and Cheva grass, although it is not a grass.

For about thirty-five years those interested in, and engaged in the textile industries, had been endeavoring to find a process by which the plant could be utilized for factory purposes in this country, instead of having to rely upon the far East for a supply. Widespread interest was taken in efforts to invent machinery for decortication and processes for degumming. Machinery, at first thought to be perfect, failed in final tests, but now the inventor's skill has overcome all difficulties, and perfect working machinery is located in a number of places.

The plant is a coarse perennial, producing a great number of hollow stems, about as thick as the little finger, and are cut when four or five feet high. Once established, it grows for twenty years or more, yielding several crops a year in the most favorable latitudes. It is propagated from divisions of roots or from rooted joints of the stems, produced by layering. Five thousand roots will plant an acre. After that the plant springs up from the roots everywhere. After the second year no cultivation is needed, and an abundant supply of young plants is always at hand. A start may be made with seed. but slips and cuttings, when obtainable, are to be preferred.

Rich and light sandy loam soil is best adapted to ramie, but it also flourishe son alluvial soil. The preparation of the soil is important. Before planting it should be plowed to a depth of twelve or fifteen inches, and left fallow until the herbage turned under has time to decay. The fertilizing elements needed in addition to the decaying vegetation are potash, soda, and phosphates. The planting can be done from March until the end of October, but in the hot season care must be taken to moisten the ground well during the first two weeks after planting. During the first year the plantation must be kept clear of weeds. The rows should be three feet apart, the plants needing to be close together in order to produce straight stalks without any branches. The stalks grow from six to ten feet high, fifteen to twenty in a clump, bearing on the upper portion large leaves, which are white on the under surface. From the base underground, runners are sent out a long distance. There is little chance for weeds after the second year; then cultivation may cease.

If the land is poor and thin it should be top-fertilized with muck or ordinary compost, or other nitrogenous manures, each winter in December or January. It is not an exhaustive crop and on a good, deep, rich soil, will thrive many years without manure. The leaves of the plant contain a large amount of potash and if allowed to remain on the ground, or turned under, act as a fine fertilizer. In the Gulf States ramie has been grown in an experimental way, and in a large variety of soils, from the light, sandy uplands to the rich, alluvial Louisiana bottom lands. The medium light soils, however, have given best results. In Florida, where it has been tested for fifteen years, the medium, light drained uplands have yielded best results; but any good soil that will produce other crops successfully will also be good for ramie, if it be well drained.

The fibre of ramie is very handsome, resembling silk, and is exceedingly strong. Its strength is twice as great as flax and hemp. It bears washing better than any other textile, becoming whiter than hemp or flax. When properly worked it has the luster of silk to the extent that it is used for many articles, such as dresses, fine passementeries, portiers, plush, or as an adulterant in silk manufacture, etc. Ramie is more hygienic than flax, hemp, or cotton, and its use is recommended in hospitals for dressing wounds.

It does not decay in water, and for this reason is in great demand wherever resistance to the atmosphere and water is needed. With ramie, or "vegetable silk" as it has been called, valuable combinations are being made with cotton, wool, flax and silk. This fibre will doubtless enter largely into wearing apparel of the near future, and the growing and manufacture of it may be expected to take rank among the leading industries of the Southern States. Especially should it be so in Florida, where natural conditions are most favorable and where ramie is destined some day to become a leading source of wealth. Now that machinery has been invented for the perfect extraction of the fibre from the plant, there is probably no crop that can better be grown, with proper management, or made more profitable with so small a cost of labor as ramie.

OTHER FIBRE PLANTS—INDIAN MALLOW.

There are numerous other fibre plants of possibly equal value, indigenous to this country such as Indian Mallow, whose bark yields a fine and dark fibre. The plant grows in almost every yard and stable lot, coming up spontaneously, and grows vigorously to a height of three to five feet.

BEAR GRASS.

Bear Grass, one of the palmetto family of plants, supplies a fibre from the long leaf that for fine cordage or combining in the manufacture of ordinary fabrics has no superior. It grows in immense quantities, in its wild state almost over the entire State.

AGAVE MEXICANA.

Agave Mexicana, or Century Plant, is of the same family of plants as Agave Sisalana, or Sisal Hemp. Its fibre is in the leaves, like the Sisal Plant, and has to be extracted and treated in the same manner. The fibre is coarser than the Sisal and not so valuable, but can be grown in almost all of the eastern and southern parts of the State.

SPANISH BAYONET OR YUCCA PALM.

Spanish Bayonet or Yucca Palm is useful for the medicinal properties of its berries as well as for the fibre of the leaves, the quality of which almost equals the pineapple fibre. The plant grows in great abundance in every section of the State, and is unaffected by the coldest temperature known in Florida.

PALMETTO.

Palmetto (Saw Palmetto) is a well known plant that grows in every section of Florida, covering literally millions of acres, therefore, practically inexhaustible. The fibre, like the Spanish Bayonet, is in the leaf, and is its equal in quality. This is also true of Bear Grass. All are adapted to the same method of decortication, and are said to yield to treatment easier than Sisal Hemp. The fibre is adapted to the same purposes as the pineapple and the other palmettos; and in addition has yielded writing paper—stationery of finest quality, being equal in every respect to the very best quality of linen paper.

OKRA.

Okra, the palatable vegetable made famous in connection with "gumbo," a favorite dish in the Southern States, particularly in the Carolinas, Georgia, Florida and the Gulf Coast country, contains in its bark a fibre of great strength and firmness.

COTTON.

Cotton, the plant supplying the downy fibre that has yielded covering for man throughout the civilized world for centuries, also contains in the plant itself, a fibre of unusual strength and firmness. This, and the okra plant have only been experimented with to a limited extent, but the existence of the fibre, especially in the cotton plant has been known for many years. Extraction of the fibre is perfectly feasible, and undoubtedly would be profitable.

PINE LEAVES.

The leaves from the pine trees of the forests furnish a fibre that has been used successfully in the manufacture of coarse fabrics such as bagging in which cotton is wrapped when baled. Vast quantities of this material go to waste every year, which should be employed in some useful purpose; approximately, sixty million yards of this material are used every year in wrapping the cotton crop alone, and if pine straw will make satisfactory material for the purpose, it would seem the height of folly to import jute from India. There is money in this industry to those who engage in it.

Now that the necessary machinery for the working up of these various fibre plants has been invented, and proven successful, the fibre plants can be cultivated profitably by farmers in the section of the State where the several varieites of the plant are adapted. Prospective homeseekers, looking for a more congenial clime in which to prosecute husbandry, have the assurance that cultivation of fibre plants will not only be found remunerative but attended with less difficulty and anxiety than the crops of a more rigorous latitude, while the man with capital seeking profitable investment will find in the fibre industry, unexceptionable inducements for the investment of his capital. There is no question but that the business will prove highly remunerative and satisfactory.

LIVE STOCK.

A brief summary, given below, on the work of hog cholera control will show conclusively that Florida is a swine-growing State and that our farmers and stockmen are awake on the question of caring for their hogs.

Outbreaks of Cholera by Counties from July 1. 1919, to June 30, 1920:

COUNTY.	July.	August.	September.	October.	November.	December	January.	February.	March.	April.	May.	June.	Total.
Suwawnee	1	..	1	..	..	..	..	..	1	1	2	1	7
Jefferson	1	1	2	..	4	1	..	..	1	1	..	2	13
Madison	1	4	2	..	5	3	4	3	5	2	3	10	42
Santa Rosa	15	3	5	2	1	..	1	..	2	..	1	1	31
Liberty	1	..	..	..	..	..	..	..	1	1	2	2	7
Gadsen	3	..	4	1	..	..	..	..	..	..	..	2	10
Wakulla	2	..	7	2	..	..	..	..	..	2	4	2	19
Leon	13	2	5	2	5	3	3	2	8	2	4	..	49
Baker	1	1	..	..	..	..	..	..	..	..	..	..	2
Hamilton	2	4	..	4	1	..	..	7	..	2	..	..	20
Duval	2	1	4	6	1	1	5	2	4	9	7	..	42
Columbia	3	1	1	..	4	1	4	2	3	3	3	1	26
Jackson	9	11	14	9	2	6	6	2	..	1	6	..	66
Bradford	9	5	6	2	..	1	..	2	1	..	2	..	28
Polk	2	..	..	..	2	..	..	1	2	..	..	2	9
Marion	2	3	4	6	3	3	6	3	1	6	4	1	42
Osceola	4	1	..	..	..	..	..	..	..	..	..	..	5
Hillsboro	1	5	4	..	3	1	5	..	12	14	16	7	68
Desoto	2	..	..	..	7	..	..	..	1	..	..	1	11
Holmes	2	..	..	1	..	..	..	..	..	..	1	..	4
Washington	10	14	2	7	2	..	1	..	..	1	2	..	39
Alachua	..	1	5	1	1	5	3	6	4	9	2	2	39
Pasco	..	2	5	9	..	2	10	7	11	1	..	..	47
Citrus	..	2	5	12	..	1	..	2	2	1	1	1	27
Sumter	..	2	5	2	4	4	2	7	7	1	5	5	44
Pinellas	..	2	1	3	..	..	..	..	..	..	..	..	6
Escambia	..	2	6	..	3	..	..	..	1	2	5	1	20
Lee	..	1	..	..	..	..	..	..	1	..	..	..	2
Nassau	..	..	6	3	..	3	1	..	..	..	4	..	17
Bay	..	..	2	1	2	..	..	..	..	..	..	..	5
Hernando	..	..	4	1	..	..	..	11	1	..	..	..	17
LaFayette	..	..	..	1	3	..	1	..	..	..	1	2	8
Lake	5	39	16	12	22	2	3	..	..	1	1	..	101
Orange	2	..	..	2	..	1	1	..	1	2	1	..	10
Volusia	..	9	10	8	2	..	..	3	1	1	2	..	36
Levy	..	..	..	..	1	..	..	..	..	..	1	..	2
Taylor	..	..	..	..	2	3	2	1	2	2	1	..	13
Seminole	..	..	..	..	..	1	..	..	..	..	..	..	1
Franklin	..	..	..	..	..	..	..	1	..	..	..	..	1
Brevard	..	..	..	..	..	..	..	..	2	..	..	1	3
Okaloosa	..	..	..	..	..	..	..	..	..	2	2	..	4
Putnam	..	..	..	..	..	..	..	..	..	1	1	..	2
St. Johns	..	..	..	..	..	..	..	..	..	2	2	..	4
Walton	..	..	..	..	..	..	..	..	..	..	..	1	1
Total	93	116	126	97	80	42	58	62	75	70	86	45	950

Number of hogs treated by months, from July 1, 1919, to June 30, 1920:

Month.	Fed. Vet.	Asst. St. Vet.	Pract. Vet.	Non-Grad.	Laymen.	Total
July	1,416	4,856	10	374	4,041	10,697
August ...	1,162	4,986	427	634	2,619	9,828
September	1,726	3,115	683	391	3,234	9,149
October ...	1,618	5,611	253	242	729	8,453
November ..	746	2,599	96	203	220	3,864
December ..	622	2,783	227	58	54	3,744
January ..	1,601	5,803	523	69	392	8,388
February ..	1,390	6,547	209	413	451	9,010
March	2,676	9,601	416	1,069	3,893	17,655
April	2,492	9,054	508	563	4,435	17,052
May	1,601	6,853	340	187	4,254	13,235
June	1,475	7048	307	287	1,799	10,916
Total ...	18,525	68,856	3,999	4,490	26,121	121,991

TICK ERADICATION.

Progress of Tick Eradication in the State of Florida for the month of June, 1920, through the co-operation of the State Live Stock Sanitary Board, County Commissioners, farmers, cattlemen and the United State Bureau of Animal Industry.

PRELIMINARY WORK—VOLUNTARY DIPPING.

County.	Number Cattle Dipped.	Vats constructed this month	Vats previously constructed
Alachua		0	68
Baker		0	8
Bay		0	10
Bradford		0	28
Brevard		0	36
Citrus		0	16
Calhoun		0	14
Columbia		0	22
Clay		0	10
DeSoto	13,900	2	92
Flagler		0	1
Franklin		0	6
Hamilton	1,195	2	19
Hernando		0	9
Hillsboro		0	76
Holmes	2,000	0	30
Jackson		0	100
Jefferson		0	10
Lafayette		0	23

PRELIMINARY WORK—VOLUNTARY DIPPING.
(Continued)

County.	Number Cattle Dipped.	Vats constructed this month	Vats previously constructed
Lake		0	58
Lee		0	25
Leon		0	62
Levy		0	10
Liberty		0	8
Madison		1	20
Manatee		0	21
Marion	2,760	2	79
Nassau		0	26
Okaloosa		0	1
Okeechobee		0	9
Orange		0	51
Osceola		0	67
Pasco		0	23
Pinellas		0	10
Polk	16,869	0	74
Santa Rosa		0	28
Putnam		0	10
Seminole		0	23
St. Johns		0	8
St. Lucie		0	23
Sumter		0	21
Suwanee	5,025	2	30
Taylor		0	21
Volusia		0	46
Wakulla		0	2
Walton		0	30
Total	41,749	9	1,364

SYSTEMATIC WORK.

COUNTY.	Number Herds Dipped	Number Cattle Dipped	Number Herds Free	Number Cattle Free	Number Herds Ticky	Number Cattle Ticky	Vats constructed this month	Vats previously constructed
Duval	1,012	11,534	44	762	968	10,772	0	67
Escambia	722	5,909	683	5,758	39	151	0	71
Gadsden	2,664	14,129	2,492	13,515	172	614	0	48
Washington	2,506	25,021	2,389	24,224	118	787	0	49
Total	6,904	56,593	5,608	44,259	1,297	12.326	0	235

FINAL WORK.

Palm Beach	63	4,932	57	4,837	24	123	0	10

SUMMARY.

Total number of cattle dipped.	Number of vats constructed this month.	Number of vats previously constructed.	Total number of vats available.
103,274	9	1,609	1,618

The following articles appeared in the Florida Times-Union, under date of July 15th, and are given here at this time because of the importance of the subjects they cover, i. e.: "Tick eradication and the abandoning by Armour & Co., Jacksonville, of the Interstate Stock Yards", which were operated by them in connection with their packing plant:

THE WORK OF TICK ERADICATION.

So mush does the future prosperity of the cattle industry in Florida depend upon the total eradication of the cattle tick, in other words, the elimination of the fever propagating tick and the removal of the government quarantine upon Florida cattle that if all the cattle owners of the State could be aroused to a sense of what they owe to themselves and to their State there would hardly be vats enough to accommodate them with all the 1,678 that have been built—there should be about 5,000 of them. So long as no cattle are allowed to leave this State's confines except for immediate slaughter—unless they are from the very few counties whose enlightened inhabitants have made a determined onslaught upon and routed the tick from within their borders—just so long will cattle from all the rest of the State bring the lowest possible prices in the great markets.

If the State Supreme Court pronounces the local option compulsory tick eradication law constitutional, as it is expected to do in the case appealed from Escambia county, in twenty-nine counties of the State the work of systematic dipping may be expected to begin in earnest and the remaining counties will rapidly fall in line.

As the cattle of Florida, dairy and other, number over a million head the number of dippings, once every fourteen days, may be expected to increase enormously if the law is upheld. It certainly would if the Legislature could be induced to pass a compulsory law applicable to the whole State. We believe this will be done as soon as the Legislature can be brought to perceive the wisdom of restraining those who for their own shortsighted, selfish ends persist in keeping the State in the list of those to which the United States applies the quarantine law.

Florida should be producing the finest beef in the country. She should be pushing hard for the position and rank of the first dairy State in the Union. She can do neither so long as so large a proportion of her cattle are tick-bitten runts, so long as so much of the blood of her dairy cattle goes to feed ticks when it should be producing milk.

OPPORTUNITY FOR LIVE STOCK MEN.

The announcement made by Armour & Co. that the stock yards in Jacksonville, operated as the Interstate Stock Yards for four years, in conjunction with the packing plant of the company, would be abandoned in the near future in compliance with the edict of the Attorney General of the United States, ordering the big packing companies to confine their activities strictly to the packing business and refrain from handling groceries, canned fruits or carrying on other business, recalls the suggestion made some time ago that this furnishes an excellent opportunity for the live stock men of the State to organize a co-operative marketing agency and lease the stock yards as a headquarters for handling the cattle, hogs, sheep and other animals raised in the State and in South Georgia.

After discussing this matter with a number of the best live stock men in the State, it would seem as if this plan was entirely feasible and would work out in a satisfactory manner to all concerned. It has been suggested that a thoroughly competent manager be secured, who would have full charge of the stock yards and the marketing of the stock shipped here by the members and others who wished to avail themselves of the benefits of this arrangement. If the membership in this co-operative organization was sufficiently large the stock yards could be made self supporting in the small fees charged for handling, feeding and caring for the stock and the best prices would be secured because the manager would have only the interests of the members and live stock owners to consider and it would be to his interest to see that the best prices were secured.

Another benefit would result from this co-operative arrangement. Many times there are farmers and live stock men who want feeders to utilize surplus crops or pastures and others have an insufficient amount of the latter and are anxious to dispose of their surplus stock. The central organization and yards could be utilized to affect this exchange and thus benefit its members. Those in need of extra feeders could notify the manager and as soon as some stock came in that would answer the description of what was wanted he could notify the farmers and take their orders for shipment.

This plan would also attract more buyers and the competition would result in better prices for the live stock. It is believed that the Cuban trade will want a great deal of our stock and now that we have regular steamship lines to Cuba there will be a number of buyers in this market and with a yard maintained by a cooperative organization of live stock raisers competition would result in bringing the prices up to the best market prices in the country. This would encourage the increase of production, especially of the better grades of cattle and hogs and in time the big packing plant would be able to enlarge and other packing plants would come and a live stock market of considerable magnitude would be established in Jacksonville.

There is every reason to believe that Florida will develop into one of the leading live stock States in this country, and this will mean that the marketing facilities will have to be improved and enlarged and the opportunity to secure the well-equipped stock yards of Armour & Co. should not be neglected by the live stock men of the State.

DESTROY THE RATS.

The worst tax we have to pay is the tax of waste.

The rat is an animal of waste, and so far as we know has no value to society, and there is no other animal that does so much damage as the rat.

The rat is a carrier of disease. He is costing the State of Florida and the Nation many thousands of dollars at this time. Destroy the rat. Save to our people the millions in money value he is now destroying annually, and thus protect our citizens from the dreaded disease, Bubonic Plague, which will not be a menace if the rat is destroyed.

The press of the State is backing up this movement, and I quote below three short articles from the following papers: "Lake Wales Highlander," "The Florida Metropolis" and "The Pensacola Journal."
"Lake Wales Highlanders" says:

WAR ON THE RAT.

England has declared war on the rat, and proposes to exterminate them, regardless of cost. And not a soul has come forward to defend the act, or to ask for a postponement of its destruction. For it is the one creature in the world without a friend or defender. The cats have their defenders; there are people who tell us that snakes are not harmful; books are written to prove that hawks and owls and other birds of pray play a valuable part in this world—but nobody defends the rat, and you never heard a Lake Wales man or woman wishing they had more of them about the house.

We cannot speak for England, but our own government estimates the damage annually done by rats in this country at two hundred million dollars. That is equivalent to the work of two hundred thousand men, working six days in the week for an entire year. So if we were to employ two hundred thousand able-bodied men in this country to exterminate the rats it would be a cheap proposition. For the rats could be destroyed in one year, and the men could spend the balance of their lives in production. And yet, we will probably never be able to do this. We will have to go ahead suffering the loss of two hundred millions of dollars' worth of property every year. However, this can be reduced considerably—and that is by every man and woman declaring their own individual war on the rat—and then seeing how many of them they can slay each year.

"The Florida Metropolis" says:

Did you know that the rats in the United States are accomplishing damage to the extent of $180,000,000 annually?

The interest on more than $4,000,000,000 of war bonds could be paid yearly by this vast sum.

Considering it from another angle, school houses for the accommodation of two million children might be built.

The campaign against rats which is now being waged in various Southern coast cities, Jacksonville included, should be extended without delay to all important communities in the nation. The Metropolis recently suggested the inauguration of a nation-wide rat extermination campaign, and a week should be set aside for that purpose.

Aside from their great destructive powers, the rats are one of the greatest carriers of disease. They have no place whatever, apparently, in the scheme of life except to form a pest. They can be easily done away with. Why not do it?

Are you doing all you can to make the extermination campaign in Jacksonville the success that it should be?

ERADICATE THE RATS.

"The Pensacola Journal" says:

Rats are destructive and expensive. They are also decidedly dangerous as, through them, the death-dealing Bubonic Plague is introduced, and recently in other cities several lives have been lost through this terrible disease.

An effort is now being made to exterminate the rats at all ports of entry, and this excellent work on the part of the health department of the State should have the hearty co-operation of the citizens and business men in all of the cities endangered and at the same time a general effort should be made to entirely eradicate the rats from every section of Florida, where they have flourished too long.

It has been stated recently that the cost of maintaining the rats of the country runs into hundreds of millions of dollars a year, in the consumption of food products, which are growing scarcer every day and which must be conserved in every manner possible. Why should we feed millions of rodents that are taking the bread from our mouths? It sounds shiftless and careless, to say the least.

An organized, concerted effort should be made to clear out the rats in Florida so that we could advertise the fact that we have no rats and that we are making every effort to conserve food as well as to produce more of it. It is a well-known fact that hundreds of rats are tolerated in big wholesale and retail groceries and warehouses and even in retail stores we have seen indications of scores of rodents, which were eating up the profits and contaminating the food that the people were purchasing every day. This is a condition that can be eliminated with a certain amount of effort and this effort should be put forth at once.

State Health Officer Greene is in earnest about the eradication of the rats and he will have the earnest support of every health officer in the State, but the people must co-operate and take an interest in this work of eradication, and if they do splendid results can be obtained. In every warehouse, store and shop extra efforts should be made immediately to exterminate the rats and there should be no let up until every rodent is wiped out. Publicity will be of great assistance in this campaign, just as it has been in the eradication of the citrus canker, the hog cholera, the cattle tick and every other pest, and the newspapers of the State can render helpful assistance by calling upon their readers to join in this crusade against an enemy that is destructive, expensive and dangerous.

INSECT PESTS.

Since July is the month to destroy insect pests, I give below an article from the U. S. Department of Agriculture, Washington, D. C., on this subject:

Washington, July 9.—July is the month to kill enemy insects, says a statement from the American Forestry Association. Charles Lathrop Pack, president of the association, estimates the annual feast of enemy insects costs this country $500,000,000. To check this annual feed the association makes these suggestions for July:

"Spray fruit trees with bordeaux-lead. Spray elms for elm leaf beetles with arsenate of lead, one pound to ten gallons of water. Spray for forest tent caterpillars with arsenate of lead (same proportion). Spray tussock moth and other lead eating insects with arsenate of lead (same proportion).

"If woolly aphis is found on under side of beech tree leaves spray with whale oil soap, one pound to ten gallons of water. Use the same combination on the red spider that may be found on prostrate junipers, yew and box. The sycamore blight may be found in the shape of a white woolly mass on the under side of leaves causing them to curl and wilt. Get the bordeaux mixture in proportions of one pound to eight gallons of water.

"A good way to destroy caterpillars is to drive carpet tacks part way into a long stick end. Catch your web at highest point and start turning in until you have the web, then plunge into any liquid that will kill them."

FEDERAL FORECAST OF WHEAT AND CORN PRODUCTION SHOWS INCREASE.

Washington, July 10.—An increase of 28,000,000 bushels in the country's wheat crop as compared with last month, with a total forecast of 809,000,000 bushels; a prospective corn crop larger than last year's and large crops of oats, barley, white potatoes, tobacco, flax and rice than were grown a year ago, were the features of the government's July crop report issued by the Department of Agriculture.

OTHER FORECASTS PRODUCTION.

Winter wheat 518,000,000 bushels.
Spring wheat 291,000,000.
Oats 1,322,000,000.
Barley 193,000,000.
Rye 82,000,000.
White potatoes 388,000,000.
Sweet potatoes 98,500,000.
Tobacco 1,501,000,000 pounds.
Flax, 14,400,000 bushels.
Rice 52,100,000 bushels.

Hay 84,800,000 tons.
Apples (total) 200,000,000 bushels.
Apples (commercial) 30,200,000 barrels.
Peaches 45,200,000 bushels.

WHEAT REMAINING.

Wheat remaining on farms July 1 is estimated at 5.1 per cent of last year's crop, or about 47,756,000 bushels, compared with 19,261,000 last year and 31,923,000, the five-year average.

Acreage of crops not previously announced is:

White potatoes 3,849,000; sweet potatoes 1,022,000; tobacco 1,859,700; flax 1,706,000; rice 1,345,700.

Corn acreage and forecast of production in thousands (i. e. 000 omitted) by the principal producing Southern States follow:

Virginia 1,520 acres and 40,797 bushels.
North Carolina 2,784 and 56,988.
Georgia 4,627 and 60,035.
Tennessee 3,022 and 73,994.
Alabama 4,117 and 62,620.
Mississippi 3,701 and 59,438.
Louisiana 1,900 and 38,882.
Texas 6,625 and 146,081.
Oklahoma 3,255 and 55,660.
Arkansas 2,599 and 5,941.

Forecast of production of winter wheat in the principal producing Southern States (in thousands of bushels, i. e. 000 omitted):

Virginia 11,286; North Carolina 7,774; Tennessee 4,134; Texas 14,249.

PART II.

CROP REPORT

DIVISIONS OF THE STATE BY COUNTIES.

Following are the subdivisions of the State, and the counties contained in each:

Western Division.

Bay,
Calhoun,
Escambia,
Holmes,
Jackson,
Okaloosa,
Santa Rosa,
Walton,
Washington—9.

Northern Division.

Franklin,
Gadsden,
Hamilton,
Jefferson,
Lafayette,
Leon,
Liberty,
Madison,
Taylor.
Wakulla—10.

Northeastern Division.

Alachua,
Baker,
Bradford,
Clay,
Columbia,
Duval,
Nassau,
Putnam,
St. Johns,
Suwannee—10.

Central Division.

Brevard,
Citrus,
Flagler,
Hernando,
Hillsborough,
Lake,
Levy,
Marion,
Orange,
Osceola,
Pasco,
Pinellas,
Polk,
Seminole,
Sumter,
Volusia—16.

Southern Division.

Broward,
Dade,
DeSoto,
Lee,
Manatee,
Monroe,
Okeechobee,
Palm Beach,
St. Lucie—9.

DEPARTMENT OF AGRICULTURE.

W. A. McRAE, Commissioner.   R. T. MICKLER, Clerk

CONDENSED NOTES OF CORRESPONDENTS BY DIVISIONS.

Western Division: General crop conditions in this section run about the average with few exceptions. The unfavorable atmospheric conditions have damaged the corn crop somewhat, but during the past few days this crop is improving rapidly. On account of labor shortage and the boll weevil, the cotton crop will be short.

The live stock condition is above the average, largely due to the fact that the pastures are in excellent condition at this season.

Northern Division: Conditions in this division do not differ essentially from those of the Western division. The same climatic conditions that exist in the Western division can be applied to this division.

Northeastern Division: The condition of crops in this division seems to be the average. The cotton crop will be short, as the acreage planted is considerably smaller than last year. The forage crops, according to all indications, will be larger than last year. The condition of live stock is decidedly good.

Central Division: In this section crops look encouraging. In some sections of this division the corn crop was damaged by rain. The citrus fruit crop indicates a large yield. The farmers are still handicapped by the shortage of labor, but this is being met by the use of improved machinery. Live stock is in good condition. The growing of live stock is increasing rapidly.

Southern Division: This division is largely given to fruit and vegetable growing. The increase in acreage has increased considerably. In some sections of this division the corn crop will be good.

Great interest is being shown in the development of the sugar industry in this section of the State and much money is being invested in lands, seed cane for planting, and improved methods of clearing the land, and in cultivating the growing crop.

In a few years to come this should be the "sugar section" of the United States.

The climatic conditions have not been too favorable, but these conditions have been general throughout the entire country. No section of the country can get ahead of Florida in the final maturity of crops.

REPORT OF CONDITION AND PROSPECTIVE YIELD OF CROPS, FRUIT AND FRUIT TREES FOR QUARTER ENDING JUNE 30th, 1920. ALSO CONDITION OF LIVE STOCK AS COMPARED WITH SAME PERIOD FOR 1919.

COUNTY	*Upland Cotton*	*Sea Island Cotton*	*Corn*	*Sorghum*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Holmes	80	..	65	50
Jackson	60	..	70	50
Santa Rosa	40	..	60	20
Walton	50	75	..	..
Div. Av. per cent	57	75	65	40
Northern Division.				
Gadsden	60	..	80	..
Hamilton	100	80	65	..
LaFayette	60	50	75	80
Leon	90	..	60	100
Madison	100	50	90	100
Wakulla	110	..	115	70
Div. Av. per cent	87	60	81	87
Northeastern Division.				
Alachua	50	25	75	90
Baker	100	..	110	..
Clay	..	75	60	100
Columbia	45	30	80	60
Duval	..	..	100	100
Suwannee	65	60	55	70
Div. Av. per cent	65	48	80	84
Central Division.				
Brevard	..	..	..	..
Hernando	85	30	100	..
Hillsborough	..	..	90	..
Levy	..	..	60	80
Marion	..	..	50	80
Orange	..	..	100	..
Osceola	..	..	140	100
Pasco	..	..	80	90
Pinellas	..	..	100	..
Polk	..	..	75	..
Seminole	..	..	100	..
Volusia	..	..	90	105
Div. Av. per cent	85	30	90	91
Southern Division.				
Dade	..	..	100	100
Lee	..	..	80	80
Palm Beach	..	..	..	..
St. Lucie	..	..	90	90
Div. Av. per cent	..	..	90	90
State Av. per cent	74	54	81	78

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Kaffir Corn*	*Sugar Cane*	*Japanese Cane*	*Rice*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Holmes	..	90	..	55
Jackson	..	40	60	40
Santa Rosa	..	70	40	20
Walton	..	75	75	..
Div. Av. per cent	..	69	58	38
Northern Division.				
Gadsden	..	150	100	100
Hamilton	..	100	..	75
LaFayette	80	75	90	90
Leon	..	85	85	100
Madison	..	120	100	50
Wakulla	..	150	111	91
Div. Av. per cent	80	113	97	84
Northeastern Division.				
Alachua	..	90	100	..
Baker	..	120	..	100
Clay	..	100	100	..
Columbia	..	90	90	90
Duval	100	110	100	100
Suwannee	..	85	80	70
Div. Av. per cent	100	99	94	90
Central Division.				
Brevard	..	75	90	..
Hernando	..	100	100	..
Hillsborough	..	100	100	80
Levy	..	90	75	75
Marion	..	80	90	75
Orange	..	100	100	..
Osceola	100	120	120	..
Pasco	..	110	120	100
Pinellas	..	100	..	..
Polk	..	80	80	..
Seminole	..	..	..	..
Volusia	..	90	100	80
Div. Av. per cent	100	95	97	82
Southern Division.				
Dade	100	125	125	..
Lee	..	90	85	..
Palm Beach	..	85	..	..
St. Lucie	..	..	100	..
Div. Av. per cent	100	100	104	..
State Av. per cent	95	95	90	74

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Sweet Potatoes*	*Dasheens*	*Field Peas*	*Egg Plants*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Holmes	90	..	75	..
Jackson	30	..	40	..
Santa Rosa	80	..	60	..
Walton	100	..	50	..
Div. Av. per cent	52	..	56	..
Northern Division.				
Gadsden	125	..	80	..
Hamilton	100	..	..	..
LaFayette	85	90	..	..
Leon	100	..	..	..
Madison	100	..	90	100
Wakulla	103	..	90	..
Div. Av. per cent	102	90	87	100
Northeastern Division.				
Alachua	100	..	100	75
Baker	100	..	..	..
Clay	100	100	100	..
Columbia	80	..	90	..
Duval	95	100	100	100
Suwannee	85	..	..	..
Div. Av. per cent	93	100	97	87
Central Division.				
Brevard	85	..	..	..
Hernando	100	50	..	..
Hillsborough	75	..	80	75
Levy	85	..	80	70
Marion	..	60	75	50
Orange	110	..	100	100
Osceola	..	..	..	..
Pasco	120	..	110	90
Pinellas	100	..	..	..
Polk	80	..	75	..
Seminole	100	..	100	100
Volusia	100	..	105	90
Div. Av. per cent	95	55	91	82
Southern Division.				
Dade	110	100	125	..
Lee	90	..	90	60
Palm Beach	90	..	..	..
St. Lucie	100	90	95	..
Div. Av. per cent	97	95	104	60
State Av. per cent	88	85	87	82

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Onions*	*Cassava*	*Tobacco*	*Peanuts*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Escambia	..	..	..	..
Holmes	..	..	..	85
Jackson	..	..	..	60
Santa Rosa	30	..	..	70
Walton	75	..	..	100
Div. Av. per cent	52	..	..	56
Northern Division.				
Gadsden	..	..	100	100
Hamilton	..	..	100	100
LaFayette	..	..	100	..
Leon	..	..	100	90
Madison	90	..	120	80
Wakulla	..	..	119	92
Div. Av. per cent	90	..	106	92
Northeastern Division.				
Alachua	100	..	..	80
Baker	..	..	..	125
Clay	..	..	..	..
Columbia	..	..	..	90
Duval	100	100	..	100
Suwannee	..	..	90	95
Div. Av. per cent	100	100	90	98
Central Division.				
Brevard	..	..	..	..
Hernando	..	..	..	100
Hillsborough	80	80	..	..
Levy	80	80	..	65
Marion	25	..	..	60
Orange	100	100	..	..
Osceola	100	80	..	100
Pasco	..	..	130	110
Pinellas	..	..	..	..
Polk	..	85	..	80
Seminole	100	..	..	100
Volusia	100	..	..	100
Div. Av. per cent	84	85	130	89
Southern Division.				
Dade	100	..	..	125
Lee	..	..	..	80
Palm Beach	..	..	..	..
St. Lucie	..	..	..	85
Div. Av. per cent	100	..	..	97
State Av. per cent	85	92	109	86

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Cow Peas*	*Pastures*	*Hay Grasses*	*Velvet Beans*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Holmes	..	..	..	90
Jackson	..	..	..	40
Santa Rosa	..	100	45	40
Walton	..	100	..	100
Div. Av. per cent	..	100	45	45
Northern Division.				
Gadsden	80	..	..	120
Hamilton	..	..	..	..
LaFayette	..	..	..	90
Leon	100	110	..	100
Madison	100	125	..	80
Wakulla	83	..	..	100
Div. Av. per cent	91	118	..	100
Northeastern Division.				
Alachua	100	100	100	100
Baker	..	110	..	..
Clay	100	100	100	100
Columbia	..	100	..	90
Duval	100	100	100	100
Suwannee	85	80	..	90
Div. Av. per cent	96	98	100	96
Central Division.				
Brevard	..	..	..	85
Hernando	100	100	100	100
Hillsborough	90	91	90	90
Levy	80	85	..	50
Marion	75	95	..	90
Orange	105	95	100	100
Osceola	120	100	100	130
Pasco	120	100	110	120
Pinellas	100	100	100	..
Polk	80	90	85	80
Seminole	100	100	100	100
Volusia	105	100	105	100
Div. Av. per cent	98	96	99	95
Southern Division.				
Dade	125	100	100	100
Lee	80	90	80	85
Palm Beach	80	..	..	..
St. Lucie	90	100	..	100
Div. Av. per cent	95	97	90	95
State Av. per cent	95	102	84	87

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Soy Beans*	*Alfalfa*	*Milo Maize*
Western Division	*Condition*	*Condition*	*Condition*
Holmes	..	..	..
Jackson	..	..	..
Santa Rosa	..	..	..
Santa Rosa	..	..	..
Walton	..	..	..
Div. Av. per cent	..	..	..
Northern Division.			
Gadsden	..	..	..
Hamilton	..	..	..
LaFayette	..	..	..
Leon	..	..	..
Madison	..	..	..
Wakulla	..	..	..
Div. Av. per cent	..	..	..
Northeastern Division.			
Alachua	..	..	..
Baker	..	..	..
Clay	..	..	..
Columbia	..	..	..
Duval	100	..	..
Suwannee	..	..	..
Div. Av. per cent	100	..	..
Central Division.			
Brevard	..	..	..
Hernando	..	..	..
Hillsborough	..	..	..
Levy	..	..	..
Marion	..	..	..
Orange	..	..	..
Osceola	..	..	..
Pasco	100	..	..
Pinellas	..	..	..
Polk	..	..	..
Seminole	..	..	..
Volusia	..	..	100
Div. Av. per cent	100	..	100
Southern Division.			
Dade	100	..	..
Lee	..	..	..
Palm Beach	..	..	..
St. Lucie	..	..	..
Div. Av. per cent	100	..	..
State Av. per cent	100	..	100

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Guavas*		*Avocado Pears*	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	..	..	..	..
Jackson	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Wakulla	..	..	..	..
Div. Av. per cent	..	..	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Duval	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent	..	..	..	..
Central Division.				
Brevard	90	100	..	..
Hernando	..	..	..	..
Hillsborough	75	95	..	..
Levy	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	120	120	150	10
Pasco	110	110	..	..
Pinellas	100	150	..	..
Polk	75	75	..	..
Seminole	100	100	..	..
Volusia	100	90	..	..
Div. Av. per cent	96	105	150	10
Southern Division.				
Dade	100	100	80	90
Lee	75	100	45	60
Palm Beach	90	75	90	70
St. Lucie	100	120	..	..
Div. Av. per cent	91	99	72	73
State Av. per cent	94	102	111	42

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	Bananas		Mangoes	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Holmes	..	..	..	..
Jackson	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Wakulla	..	..	..	..
Div. Av. per cent	..	..	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Duval	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent	..	..	..	..
Central Division.				
Brevard	..	..	..	..
Hernando	100	100	..	..
Hillsborough	..	..	..	..
Levy	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	80	50	70	100
Pasco	..	..	..	..
Pinuellas	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Volusia	..	..	..	..
Div. Av. per cent	90	75	70	100
Southern Division.				
Dade	90	100	80	90
Lee	30	40	..	..
Palm Beach	80	85	85	60
St. Lucie	..	..	75	60
Div. Av. per cent	67	75	80	70
State Av. per cent	79	75	75	85

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	Orange Trees		Lemon Trees	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	. .	. .	. .	. .
Jackson	. .	. .	. .	. .
Santa Rosa	30	20	. .	. .
Walton	50	90	. .	. .
Div. Av. per cent.	40	55	. .	. .
Northern Division.				
Gadsden	. .	. .	. .	. .
Hamilton	. .	. .	. .	. .
LaFayette	50	75	. .	. .
Leon	. .	. .	. .	. .
Madison	. .	. .	. .	. .
Wakulla	. .	. .	. .	. .
Div. Av. per cent.	50	75	. .	. .
Northeastern Division.				
Alachua	. .	. .	. .	. .
Baker	. .	. .	. .	. .
Clay	100	50	. .	. .
Columbia	. .	. .	. .	. .
Duval	90	90	. .	. .
Suwannee	. .	. .	. .	. .
Div. Av. per cent.	95	70	. .	. .
Central Division.				
Brevard	75	90	75	90
Hernando	100	150	. .	. .
Hillsborough	75	90	75	90
Levy	50	25	. .	. .
Marion	90	75	. .	. .
Orange	100	160	. .	. .
Osceola	130	100	130	90
Pasco	110	150	. .	. .
Pinellas	100	80	. .	. .
Polk	80	80	. .	. .
Seminole	100	100	. .	. .
Volusia	90	95	. .	. .
Div. Av. per cent.	92	100	93	90
Southern Division.				
Dade	90	90	100	95
Lee	90	98	. .	. .
Palm Beach	90	95	. .	. .
St. Lucie	95	90	. .	. .
Div. Av. per cent.	91	93	100	95
State Av. per cent.	74	79	96	92

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Lime Trees*		*Grapefruit Trees*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Holmes	..	..	..	..
Jackson	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
LaFayette	50	75	30	50
Leon	..	..	..	..
Madison	..	..	..	..
Wakulla	..	..	..	..
Div. Av. per cent	50	75	30	50
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Duval	..	..	90	90
Suwannee	..	..	..	..
Div. Av. per cent	..	..	90	90
Central Division.				
Brevard	..	..	85	100
Hernando	..	..	100	75
Hillsborough	..	..	75	90
Levy	..	..	..	..
Marion	..	..	..	..
Orange	..	..	100	100
Osceola	130	90	140	100
Pasco	..	..	100	110
Pinellas	..	..	100	80
Polk	..	..	75	50
Seminole	..	..	100	100
Volusia	..	..	90	60
Div. Av. per cent	130	90	96	86
Southern Division.				
Dade	95	100	80	90
Lee	80	90	80	90
Palm Beach	90	90	90	85
St. Lucie	..	95	60	..
Div. Av. per cent	88	94	77	88
State Av. per cent	89	86	73	79

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Japanese Persimmons*		*Plums*	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	..	..	..	..
Jackson	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	80	100
LaFayette	75	100	15	25
Leon	..	..	..	..
Madison	..	..	..	..
Wakulla	..	..	20	40
Div. Av. per cent.	75	100	38	55
Northeastern Division.				
Alachua	..	..	90	90
Baker	75	100	75	100
Clay	100	100	..	..
Columbia	..	..	..	..
Duval	100	100	100	100
Suwannee	..	..	..	..
Div. Av. per cent.	92	100	58	97
Central Division.				
Brevard	75	90	..	..
Hernando	100	100	..	..
Hillsborough	60	75	60	75
Levy	..	..	..	..
Marion	..	..	..	..
Orange	100	100	..	..
Osceola	100	100	100	100
Pasco	..	..	30	50
Pinellas	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Volusia	100	60	..	..
Div. Av. per cent.	89	88	63	75
Southern Division.				
Dade	..	..	..	..
Lee	..	..	..	..
Palm Beach	..	..	..	..
St. Lucie	90	100	..	..
Div. Av. per cent.	90	100	..	..
State Av. per cent.	86	97	53	76

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Pears*		*Peaches*	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	..	..	80	100
Jackson	..	..	..	..
Santa Rosa	..	..	20	40
Walton	25	40	25	60
Div. Av. per cent	25	40	42	67
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	85	100
LaFayette	80	100	50	50
Leon	10	10	..	..
Madison	..	..	..	..
Wakulla	65	89	35	60
Div. Av. per cent	52	66	57	70
Northeastern Division.				
Alachua	90	50	90	75
Baker	75	100	..	..
Clay	..	..	100	100
Columbia	..	..	..	..
Duval	100	100	90	90
Suwannee	..	..	..	..
Div. Av. per cent	58	63	93	88
Central Division.				
Brevard	75	90	..	..
Hernando	50	50	100	100
Hillsborough	45	60	40	60
Levy	75	50	85	75
Marion	..	..	50	50
Orange	100	60	100	50
Osceola	40	30	90	80
Pasco	15	20	35	50
Pinellas	..	..	..	..
Polk	..	..	75	75
Seminole	..	..	..	..
Volusia	30	10	100	60
Div. Av. per cent	54	46	75	67
Southern Division.				
Dade	..	..	..	..
Lee	..	..	..	..
Palm Beach	..	..	..	..
St. Lucie	..	..	..	..
Div. Av. per cent	..	..	..	..
State Av. per cent	47	54	67	73

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Watermelons*		*Cantaloupes*	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	50	80	..	..
Okaloosa	..	..	..	..
Santa Rosa	75	100	30	75
Walton	50	80	50	80
Div. Av. per cent	54	77	40	77
Northern Division.				
Gadsden	..	..	..	..
Hamilton	85	100	..	..
LaFayette	..	..	..	..
Leon	50	45	..	..
Madison	60	80	50	75
Wakulla	85	100	65	80
Div. Av. per cent	93	81	57	77
Northeastern Division.				
Alachua	75	60	50	40
Baker	80	100	..	..
Clay	100	100	..	..
Columbia	..	..	..	..
Duval	90	90	90	90
Suwannee	75	100	..	..
Div. Av. per cent	84	90	70	65
Central Division.				
Brevard	60	85	75	90
Hernando	100	300	..	..
Hillsborough	40	70	40	75
Levy	60	50	60	50
Marion	50	50	25	15
Orange	100	100	..	..
Osceola	90	100	90	100
Pasco	90	100	75	90
Pinellas	100	150	..	..
Polk	60	65	..	..
Seminole	100	125	100	80
Volusia	90	90	..	..
Div. Av. per cent	78	107	66	71
Southern Division.				
Dade	100	100	65	80
Lee	..	..	..	..
Palm Beach	85	75	..	..
St. Lucie	100	100	..	..
Div. Av. per cent	95	92	65	80
State Av. per cent	81	89	60	74

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Pineapples*		*Grapes*	
	Condition	*Prospective Yield*	*Condition*	*Pro'p'ct've Yield*
Western Division				
Holmes	..	..	80	100
Jackson	..	..	..	..
Santa Rosa	..	..	90	80
Walton	..	..	..	..
Div. Av. per cent	..	..	85	90
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
LaFayette	..	..	80	100
Leon	..	..	..	..
Madison	..	..	70	90
Wakulla	..	..	85	120
Div. Av. per cent	..	..	98	103
Northeastern Division.				
Alachua	..	..	100	100
Baker	..	..	85	100
Clay	..	..	80	100
Columbia	..	..	..	..
Duval	..	..	100	100
Suwannee	..	..	..	..
Div. Av. per cent	..	..	91	100
Central Division.				
Brevard	..	..	75	90
Hernando	..	..	..	..
Hillsborough	..	..	..	..
Levy	..	..	60	50
Marion	..	..	..	..
Orange	..	..	100	150
Osceola	80	50	..	..
Pasco	..	..	85	110
Pinellas	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	100	100
Volusia	..	..	100	100
Div. Av. per cent	80	50	87	100
Southern Division.				
Dade	60	75	..	..
Lee	..	..	..	..
Palm Beach	90	75	..	..
St. Lucie	70	125	95	100
Div. Av. per cent	73	92	95	100
State. Av. per cent	76	71	87	99

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Horses and Mules*	*Cattle*	*Hogs*	*Sheep*
Western Division	*Condition*	*Condition*	*Condition*	*Condition*
Holmes	105	110	115	100
Jackson	60	70	..	30
Santa Rosa	80	75	60	90
Walton	100	100	75	50
Div. Av. per cent.	86	89	83	67
Northern Division.				
Gadsden	100	100	85	100
Hamilton	100	100	100	100
LaFayette	100	100	100	..
Leon	100	110	110	..
Madison	100	125	100	75
Wakulla	100	100	100	95
Div. Av. per cent.	100	106	99	92
Northeastern Division.				
Alachua	100	100	100	100
Baker	100	100	80	110
Clay	100	100	100	100
Columbia	100	100	100	90
Duval	100	100	100	100
Suwannee	75	70	70	..
Div. Av. per cent.	96	95	92	100
Central Division.				
Brevard	..	85	75	..
Hernando	100	100	100	100
Hillsborough	100	100	100	90
Levy	50	75	60	..
Marion	90	85	95	80
Orange	100	125	100	..
Osceola	100	90	90	100
Pasco	110	120	100	100
Pinellas	100	100	100	..
Polk	75	70	80	..
Seminole	100	100	100	100
Volusia	90	85	100	90
Div. Av. per cent.	92	95	92	94
Southern Division.				
Broward	..	..	..	..
Dade	100	125	100	100
DeSoto	..	..	..	..
Lee	90	95	80	90
Manatee	..	..	..	..
Monroe	..	..	..	..
Okeechobee	..	..	..	..
Palm Beach	100	98	95	..
St. Lucie	90	85	85	..
Div. Av. per cent.	95	101	90	95
State Av. per cent.	94	97	91	90

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Tobacco*	*Honey*	*Wool*
Western Division	*Pounds*	*Pounds*	*Pounds*
Holmes	..	20,000	60,000
Jackson	..	..	..
Santa Rosa	..	3,000	45,000
Walton	..	5,000	500,000
Div. Av. per cent	..	9,333	201,666
Northern Division.			
Gadsden	100,000	..	..
Hamilton	..	..	..
LaFayette ..	..	..	..
Leon	..	..	..
Madison	..	..	..
Wakulla	1,100	10,800	1,100
Div. Av. per cent	50,500	10,800	1,100
Northeastern Division.			
Alachua	..	..	..
Baker	50,000	10,000	10,000
Clay	..	..	..
Columbia	..	..	..
Duval	..	500	1,500
Suwannee	80,000	30,000	..
Div. Av. per cent	65,000	10,166	5,750
Central Division.			
Brevard	..	20,000	..
Hernando	..	..	..
Hillsborough	..	..	..
Levy	..	500	..
Marion	..	..	..
Orange	..	15,000	..
Osceola	..	4,000	8,000
Pasco	1,100	..	..
Pinellas	..	20,000	..
Polk	..	..	..
Seminole	..	10,000	..
Volusia	..	140,000	5,000
Div. Av. per cent	1,100	29,929	6,500
Southern Division.			
Dade	..	..	..
Lee	..	..	..
Palm Beach	..	25,000	..
St. Lucie	..	..	..
Div. Av. per cent	..	25,000	..
State Av. per cent	38,666	17,046	53,754

PART III.

Rules and Regulations.

Analyses.

DEPARTMENT OF AGRICULTURE OF THE STATE OF FLORIDA

REGULATIONS FOR DRAWING, PACKING AND TRANSMITTING SAMPLES OF FERTILIZER AND FEED STUFF FOR ANALYSIS BY THE STATE LABORATORY.

All Other Rules and Regulations Relating to the Matter Herein Referred to or Discussed Are Hereby Rescinded.

ANALYSES MADE BY STATE LABORATORY.

Only such materials are analyzed by the State Laboratory as are directed by the Pure Food, the Fertilizer, and Stock Feed Laws.

There are no fees or charges of any kind made by the State Laboratory.

The State Laboratory is not permitted to compete with commercial laboratories.

No commercial work of any kind is accepted.

The State Laboratory does not analyze the materials used by, nor the products of Fertilizer, Feed Stuffs, or other factories, by which to guarantee their goods. Such analyses are commercial problems.

ANALYSES IN CRIMINAL CASES

The State Laboratory does not make post mortem examinations, nor furnish evidence in criminal cases (except as provided by the Pure Food, Fertilizer and Stock Feed Laws). Such analyses and examinations are made by specialists employed by the grand jury and prosecuting attorney, the cost being taxed as other criminal costs. by the court.

STATE OF FLORIDA.

DEPARTMENT OF AGRICULTURE.

February 10, 1920.

REGULATIONS GOVERNING THE TAKING AND FORWARDING OF SAMPLES OF COMMERCIAL FERTILIZER AND COMMERCIAL FEEDING STUFF TO THE COMMISSIONER OF AGRICULTURE FOR ANALYSIS BY THE STATE CHEMIST.

The following regulations for drawing, preparing and sending samples of commercial fertilizer and commercial stock feed, under the authority given in Section 15 of Chapter 4983, Acts of 1901 (Chapter XXII., General Statutes), as amended by Chapter 5660, Acts of 1907, and Section 15, Chapter 5452, Acts of 1905, as amended by Chapter 5661, Acts of 1907, and Chapter 7939, Acts of 1919, are this day adopted.

OFFICIAL SAMPLES, drawn by State Chemist, Assistant State Chemists or Inspectors.

An approximately equal quantity (a pint or a pound approximately) shall be taken from ten or more original packages of the same brand in the possession of any manufacturer, dealer or person, when the lot being sampled contains ten or more packages of the same brand.

In case the lot contains less than ten packages of the same brand, each package shall be sampled as directed.

Preparation of Sample.—The several samples, drawn as above from each package, shall be carefully and thoroughly mixed. From this well mixed lot drawn from each package as above, a fair sample of not less than one pound, in the case of fertilizers, and of not less than one-half pound in the case of stock feed, shall be placed in a bottle or tin can—approximately a quart can or bottle

The sample shall be delivered to the State Chemist, who shall prepare the same for analysis (by properly grinding, mixing and sifting the same.) The State Chemist shall retain one-half of this prepared sample for analysis; the remainder shall be placed in a glass bottle, sealed, and identified by the laboratory number and date, and placed in the custody of the Commissioner of Agriculture. These duplicate samples shall be retained for a period of three months from the date of the certificate of analysis. In case of appeal from analysis of the State Chemist (within three months from the date of the certificate), the sample shall be retained indefinitely, until the final disposition of the case.

Special Samples.—Samples drawn and transmitted by the purchaser under Sections 9 of both the Commercial Fertilizer and the Commercial Stock Feed Laws.

SAMPLING TEN OR LESS PACKAGES.

The purchaser or owner of the material to be sampled, when the lot or shipment contains ten or less original packages, each bearing the guarantee tag and stamp required by law, of the same brand, shall take, in the presence of two disinterested persons, within sixty days after delivery, an approximately equal quantity (a pint or a pound) from each of the ten or less packages of the same brand.

NOTE: It is suggested that when practicable all samples should be taken with an approved "sampler" (a sugar, flour or cheese tryer, a prod augur, a semi-circular instrument of tin or sheet iron, capable of drawing a sample through the center of the package, approximately twenty inches long); the sample to be taken through the center of the package.

SAMPLING MORE THAN TEN PACKAGES.

In case the lot or shipment contains more than ten packages of the same brand, each bearing the guarantee tag and stamp required by law, a sample shall be drawn in the presence of two disinterested persons from ten or more packages.

After carefully and thoroughly mixing these samples, a fair sample of the mixture, not less than a pound in the case of commercial fertilizer, and not less than one-half pound in the case of commercial stock feed, shall be placed in a bottle or tin can, and sealed in the presence of the witnesses.

On the sample thus drawn shall be written the name and address of the purchaser, and the name of a disinterested party, who shall transmit the package to the Commissioner of Agriculture by mail or prepaid express, properly packed to prevent damage in transportation.

The purchaser, or sender, of the sample shall also address a letter to the Commissioner of Agriculture advising him of the sending of the sample, stating the number of original packages purchased, each bearing the guaranteed analysis and inspection stamp required by law, represented by the sample, the date of purchase, and the date of delivery of the goods.

NOTE: THIS LETTER MUST NOT BE ENCLOSED IN THE PACKAGE.

Blank form of the letter of transmittal will be furnished by the Commissioner of Agriculture and is published herein. It must be literally complied with, otherwise the sample will not be accepted for anaylsis.

SAMPLES IN PAPER OR WOODEN PACKAGES WILL NOT BE ACCEPTED.

These regulations are adopted to secure fair samples of sufficient size to allow the preservation of a duplicate sample in case of protest or appeal. This duplicate sample will be preserved for three months from the date of certificate of analysis.

The State Chemist is not the proper officer to receive special samples from the purchaser.

The drawing and sending of special samples is in rare cases in compliance with law. Samples are frequently sent in paper boxes, badly packed, and frequently in very small quantity (less than an ounce) and often there are no marks, numbers or other means of identification; the postmark in many instances being absent.

NOTE: STRICT COMPLIANCE WITH THE ABOVE REGULATIONS WILL BE REQUIRED. THE SAMPLE, TO BE A PROPER SAMPLE, MUST NOT BE LESS THAN ONE POUND OF FERTILIZER OR ONE-HALF POUND OF STOCK FEED, IN A TIN CAN OR BOTTLE, SEALED AND ADDRESSED TO THE COMMISSIONER OF AGRICULTURE. THE PURCHASER'S NAME AND ADDRESS, AND THE NAME OF THE SENDER, MUST ALSO BE ON THIS PACKAGE, THIS RULE APPLYING TO SPECIAL SAMPLES OF FERTILIZERS OR COMMERCIAL FEEDING STUFF, DRAWN AS DIRECTED.

IF MORE THAN ONE SAMPLE IS SENT REPRESENTING DIFFERENT BRANDS THE SAMPLES MUST BE NUMBERED SO AS TO IDENTIFY THEM. ALL THIS SHOULD BE DONE IN THE PRESENCE OF THE WITNESSES, AND THE PACKAGE SEALED AND MAILED OR EXPRESSED BY A DISINTERESTED PERSON.

NOTE: The tags off the sacks with the guaranteed anaylses and stamps, and names of manufacturers should be retained by the purchaser, to compare with the certificate of analysis when received and NOT SENT TO THIS OFFICE.

Raw Phosphates.—Ground raw phosphate rock—hard or soft—contains phosphoric acid, more or less available, hence is classed a fertilizer, when sold to consumers for fertilizing purposes, under Section 11 of the law; and is required to be guaranteed and stamped as required by Section 3; listed and guaranteed under oath, as required by Section 5, and the inspection fee paid previous to sale as provided by Section 6.

Lime is not classed as a fertilizer. It is not required to be sold under guarantee, nor the inspection fee paid; hence is not subject to free analysis by the State Laboratory.

The following form letter for transmitting special samples of fertilizers or feeding stuffs is adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

FORM FOR TRANSMITTING SAMPLES OF COMMERCIAL FERTILIZER OR COMMERCIAL FEEDING STUFF.

........................Fla., ...192....

Hon. W. A. McRae,
Commissioner of Agriculture.
Tallahassee, Florida.

Dear Sir:—

I send you today by mail (or express) a sample of

....
(Indicate Fertilizer, Cotton Seed Meal or Feed Stuff.)

for analysis by the State Chemist.

This sample is taken from a lot of....packages, each bearing the guarantee tag and stamp required by law, purchased from a registered dealer, on the.......day of ...., 192...., and delivered on or about the...... day of...................., 192....

This sample was drawn from........packages in the presence of two witnesses, this day.

The guarantee tags and stamps off the .... packages sampled are retaind by the purchaser.

This sample is sent by me, one of the witnesses, for Mr. ...., the purchaser.

Yours truly,

....

OBJECT OF THE LAWS.

The object of the Fertilizer and Stock Feed Laws is: First, to protect the consumer from fraud, false representations by illegitimate dealers who have not complied with the law, nor filed their guaranteed analysis under oath, and who have not paid their inspection tax fixed by law.

Second, to protect the lawful dealer who has fully complied with the law by filing his guarantee under oath, and has paid his inspection fee, and who has placed upon each bag or other package a guarantee tag showing the minimum percentage of valuable ingredients in the fertilizer or feed stuffs, as provided by the law.

NOTE: These regulations are adopted to conform with the decision of the Supreme Court of Florida of May 12, 1917, as follows:

"The terms of the statute in giving the special right of action to 'any person purchasing' fertilizer clearly contemplates that the test shall be made with at least some degree of promptness after the delivery of the fertilizer, and that more than one sample shall be taken when the quantity of fertilizer purchased makes it expedient to have plural samples to secure a fair test."

SPECIAL SAMPLES.

Florida is the only state in the Union that provides for the "special sample," drawn by the consumer or purchaser, UNDER PROPER RULES AND REGULATIONS FIXED BY LAW,—to be sent to the Commissioner of Agriculture for analysis free of cost. Any person who has purchased fertilizers or feeds FOR HIS OWN USE MAY DRAW A SAMPLE OF THE SAME, ACCORDING TO LAW AND REGULATIONS, and have the same analyzed by the State Chemist free of cost. In case of adulteration or deficiency the purchaser can, on establishing the fact, receive double the cost demanded for the goods.

The law requires the "special samples" to be drawn in a manner to prevent the submission of spurious samples. Rules and regulations are published in every Quarterly Bulletin for drawing and transmitting "special samples."

This special sample has been a most potent factor in enforcing the law and discouraging the sale of adulterated or misbranded goods.

WATER ANALYSIS.

The State Laboratory will analyze samples of water from public-owned water supplies, municipal plants, etc., owned and operated by the city or town, when accompanied by the certificate of the mayor, or other city officer, that the water is furnished the public by the city or town.

It will not analyze water for individuals or corporations selling water to the public, water companies, ice companies, mineral springs, health resorts, etc., maintained for profit. Such samples should be sent to a commercial laboratory.

The State Laboratory does not make bacteriological examinations for disease germs. Such examinations are made by the State Board of Health at Jacksonville, Fla., which has entire charge of the public health.

We do not make a sanitary analysis. We determine the total dissolved solids in the sample quantitatively, and report them as parts per 1,000,000, naming the principal ingredients in the order of their predominance qualitatively. We find Calcium Carbonate (lime), Sodium Chloride (salt), Magnesium Sulphate (epsom salts), Silica (sand), and Iron, is the general order of their predominance, though on the coast, where the total dissolved solids amounts to 5,000 or more parts per 1,000,000, Sodium Chloride (salt) is the predominant substance.

From a knowledge of the chemical analysis of a water, unaccompanied by any further information, no conclusion as to the potability and healthfulness of the water can be deduced.

Therefore, we require the following information to be given in regard to the source of the water:

(1). The source of the water: spring, lake, river, driven well, dug well, bored well, artesian well or flowing well; and also the depth of the water surface below the top of the soil, and in cased wells, the depth of the casing.

(2). The locality of the source of the water; town, city or village; or the section, township and range.

No samples of water will be analyzed unless the name and address of the sender is on the package for identification.

WE REQUIRE TWO GALLONS OF EACH SAMPLE OF WATER IN A NEW JUG, STOPPED WITH A NEW CORK, AND SENT BY PREPAID EXPRESS. We will not accept any sample of water for analysis not in a new jug. Vessels previously used for other purposes are never properly cleaned for sending samples of water for analysis. Corks, once used for other substances (molasses, vinegar, whiskey, kerosene, etc.) are never properly cleaned.

NOTE: We find the waters of the State — springs, wells, driven wells and artesian wells — generally very pure and wholesome, with but little mineral impurity, and that such as is not harmful. Except in cases of gross carelessness, in allowing surface water to contaminate the well or spring, the waters of the State are pure and wholesome. The deep wells of the State are noted for their purity and healthfulness.

SOIL ANALYSIS.

Frequently samples of soil are sent in for analysis with a request to advise as to the best methods of fertilizing. There is but little information to be derived from a soil analysis that would be of benefit to farmers. So much depends on tilth, drainage, culture and other physical conditions, that an analysis made under laboratory conditions is of little value.

A chemical anaylsis of soil may indicate a very fertile soil, rich in plant food, while the facts are the soil is not productive. This is instanced by the rich sawgrass muck lands and river bottoms of the State, that are fertile chemically, but not productive until properly drained; also by the arid lands of the West, rich in the elements of plant food, but not productive until irrigated. Other soils, with less plant food, but on account of proper physical conditions, culture and tilth, are exceedingly productive.

The average of thousands of analyses of Florida soils made by the Florida Agricultural Experiment Station and the State Laboratory is as follows:

Nitrogen (per cent)	0.0413
Potash (per cent)	0.0091
Phosphoric Acid (per cent)	0.1635

This is a fair average of all of the Norfolk and Portsmouth soil series of the State, which comprise by far the greater portion of the State.

In this connection we quote from the report of the Indiana Agricultural Experiment Station, Purdue University, Lafayette, Indiana, 1908, as follows:

“*Soil Analysis of Little Value in Showing Fertilizer Requirements.*—The Chemical Department is called upon to answer hundreds of letters of inquiry in relation to agricultural chemical problems from people all over the State. In this connection it might be well to say that there is a widespread idea that the chemist can analyze a sample of soil and, without further knowledge of the conditions, write out a prescription of a fertilizer which will fill the needs of that particular soil.

“The Experiment Station does not analyze samples of soil to determine the fertilizer requirements. There is no chemical method known that will show reliably the availability of the plant food elements present in the soil, as this is a variable factor, influenced by the kind of crop, the type of soil, the climate and biological conditions; hence, we do not recommend this method of testing soil.

“The method recommended by the Indiana Station is the field fertilizer test or plot system, in which long, narrow strips of the field to be tested are measured off side by side. The crop is planted uniformly over each. Different fertilizers are applied to the different plots, every third or fourth one being left unfertilized. The produce from these plots is harvested separately and weighed. In this manner the farmer can tell what fertilizer is best suited for his needs. As climatic conditions may influence the yield with different fertilizers, it is best to carry on such tests for more than one year before drawing definite conclusions. There is positively no easier or shorter method of testing the soil that we feel safe in recommending.

"Soil can be greatly improved by an intelligent rotation of crops, the conservation of stable manures, and the use of some kind of commercial fertilizer. Farmers need have no fear that the proper application of commercial fertilizer will injure the land."

ANALYSIS OF FOODS AND DRUGS.

Samples of foods and drugs are drawn under special regulations as provided by law.

Application should be made to the Commissioner of Agriculture or State Chemist for the necessary blanks, instructions, etc., for drawing and transmitting samples of foods and drugs, including drinks of all kinds.

FOOD AND DRUG SAMPLES NOT DRAWN AND TRANSMITTED ACCORDING TO LAW WILL NOT BE ACCEPTED FOR ANALYSIS.

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

Citizens of the State interested in fertilizers, foods and drugs, and stock feed, can obtain, free of charge, the respective laws, including rules and regulations and standards, by applying to the Commissioner of Agriculture. Application for the Quarterly Bulletin of the State Department of Agriculture should also be made to the Commissioner of Agriculture, or State Chemist. The Bulletins of the Florida Agriculture Experiment Station can be had by application to the Director at Gainesville.

These regulations supersede and revoke all previous regulations governing the drawing and transmitting of samples of commercial fertilizer and commercial stock feed.

W. A. McRAE,
Commissioner of Agriculture.

February 10th, 1920.
Tallahassee, Fla.

NEW YORK WHOLESALE PRICES, CURRENT JULY 1, 1920, FERTILIZER MATERIALS.

AMMONIATES.

Ammonia, sulph., bulk, f. o. b. works per 100 lbs.	5.50	@	—
double bags, f. a. s. New York	7.00	@	7.05
Fish scrap, dried, 11 p. c. ammonia and 14 p. c. bone phosphate, f. o. b. factories	7.50	&	10
wet, acidulated, 6 p. c. ammonia, 3 p. c. phosphoric acid, f. o. b. fish factory, if made	6.50	&	50
Ground fish scrap, 11 to 12 p. c. ammonia, 15 p. c. B. P. f. o. b. fish factory, ton	100.00	@	—
Tankage, 11 p. c. and 15 p. c. Chicago, ground	7.50	&	10
Tankage, 10 and 20 p. c., f. o. b. Chicago, ground	7.50	&	10
Tankage, 9 and 20 p. c., f. o. b. Chicago, ground	7.50	&	10
Tankage, concentrated, f. o. b. Chicago, 14 to 15 p. c.	7.00	@	7.25
blood, f. o. b. Chicago	8.00	@	8.25
Garbage, tankage, f. o. b. Chicago . per ton	16.00	@	—
Hoofmeal, f. o. b. Chicago % unit	6.75	@	7.25
Dried blood, 12-13 p. c. ammonia, f. o. b. New York	8.00	@	—
Tankage, New York	7.75	&	10
Nitrate of soda per 100 lbs.	3.85	@	—
futures	4.10	@	4.25

PHOSPHATES.

Acid, phosphate, basis 16%, bulk . . per ton	21.00	@	—
Southern ports	21.00	@	22.00
Bones, rough, hard	30.00	@	32.00

soft steamed, unground	26.00	@	27.00
ground, steamed, 1¼ p. c. ammonia and 50 p. c. bone phosphate	38.00	@	45.00
do., 3 and 50 p. c.	45.00	@	50.00
raw, ground, 4 p. c. ammonia and 50 p. c. bone phosphate	60.00	@	62.50
Florida land pebble phosphate rock, 68 p. c., f. o. b. mines	11.00	@	11.50
Florida land pebble phosphate rock, 75 p. c., f. o. b. mines	12.00	@	13.00
Florida, land pebble phosphate rock, 77 p. c., f. o. b. mines	14.00	@	15.00
Florida high-grade phosphate hard rock, 77 p. c., f. o. b. mines	16.50	@	17.50
Tennessee phosphate rock, f. o. b. Mt. Pleasant, domestic, 78@80 p. c. ... per ton	15.00	@	15.50
75 p. c. per ton, 2,240 lbs.	11.00	@	12.00
70 p. c. ground	10.50	@	11.00
unground	9.00	@	10.00

POTASHES.

American fertilizer, potash, in paper-lined cars, f. o. b. works per unit	2.25	@	2.30
Muriate of potash, 80@85 per cent. K. C. L., bags per unit	2.40	@	—
Muriate of potash, min., 90@95 per cent., basis 80 per cent., in bags	2.50	@	—
Muriate of potash, min. 98 per cent., basis 80 per cent., in bags	Nominal		
Sulphate of potash, 90@95 per cent., basis 90 per cent., in bags per unit	3.50	@	—
First sorts potashes per lb.	15	@	17

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEAPORTS, JULY 1, 1920.

MATERIAL	COMPOSITION				Price Per Ton
	Available Phosphoric Acid	Insoluble Phosphoric Acid	Potash	Ammonia	
Dissolved bone black	16	......	......	......	$34.00
High grade acid phosphate	16	......	......	......	28.00
Low grade acid phosphate	14	......	......	......	23.50
Hardwood ashes	......	......	3	......	31.00
Hardwood ashes	......	......	2	......	28.00
Domestic potash	......	......	25	......	90.00
Nebraska potash	......	......	28	......	98.00
Sulphate of potash	......	......	50	......	180.00
Manure salt	......	......	20	......	70.00
Kainit	......	......	12	......	45.00
Nitrate of potash	......	......	15	18	130.00
Shrimp scrap	7	......	1	4	75.00
Cotton seed meal	2.5	......	1.5	7	78.00
Sheep manure	2	......	3.5	2.2	40.00
Goat manure	1	......	3	1.5	35.00
Ground tobacco stems	......	......	8	3	66.00
Steamed bone meal	8	14	......	3	65.00
Raw bone meal	5	17	......	4.5	70.00
Low grade tankage	4	8	......	6.5	78.00
Medium grade tankage	3	7	......	8	92.00
High grade tankage	1.5	3.5	......	10	110.00
Dried blood	......	......	......	14	157.00
Dried blood	......	......	......	16	164.00
Nitrate of soda	......	......	......	18	95.00
Sulphate of ammonia	......	......	......	25	137.00
Castor meal	......	......	......	6.5	70.00

Terms: 30 days net, or 5% discount for cash in 10 days.

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $3.50 per ton in excess of above prices.

STATE VALUATIONS

(Based on commercial value July 1, 1920, at Florida factories in ton lots for cash, f. o. b.)

Available Phosphoric Acid	9c	a pound
Insoluble Phosphoric Acid	2c	a pound
Ammonia (or its equivalent in nitrogen)	38c	a pound
Potash (as actual potash, K2O)	18c	a pound

If calculated by units:

Available Phosphoric Acid	$1.80 per unit
Insoluble Phosphoric Acid	0.40 per unit
Ammonia (or its equivalent in nitrogen)	7.60 per unit
Potash	3.60 per unit

With a uniform allowance of $3.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent in a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this, take for example a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent x	$1.80 =	$11.20
Insoluble Phosphoric Acid	1.50 per cent x	0.40 =	0.60
Ammonia	3.42 per cent x	7.60 =	25.99
Potash	3.23 per cent x	3.60 =	11.63
Mixing and bagging			3.50
Commercial value at seaports			$52.92

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent x	$1.80 =	$14.40
Ammonia	2 per cent x	7.60 =	15.20
Potash	2 per cent x	3.60 =	7.20
Mixing and bagging			3.50
Commercial value at seaports			$40.30

The valuations and market prices in preceding illustrations are based on market prices for one-ton lots.

STATE VALUES.

It is not intended by the "State valuations" to fix the price or commercial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertilizers or commercial stock feed at the date of issuing a Bulletin, or the opening of the "season." They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked, "What is Smith's Fruit and Vine worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid and potash may be determined and the inquirer informed what the cost of the necessary materials to compound a ton of goods similar to "Smith's Fruit and Vine" would be, using none but accepted and well-known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer or feed, can be **purchased for cash in ton lots at Florida seaports.**

These price lists published in this report, with the "State values," April 1, 1920, are nominal.

FACTORS FOR CONVERSION.

To Convert—

Ammonia into nitrogen, multiply by............	0.824
Ammonia into protein, multiply by.............	5.15
Nitrogen into ammonia, multiply by............	1.214
Nitrate of soda into nitrogen, multiply by........	0.1647
Nitrogen into protein, multiply by..............	6.25
Bone phosphate into phosphoric acid, multiply by.	0.458
Phosphoric acid into bone phosphate, multiply by.	2.184
Muriate of potash into actual potash, multiply by.	0.632
Actual potash into muriate of potash, multiply by.	1.583
Sulphate of potash into actual potash, multiply by.	0.541
Actual potash into sulphate of potash, multiply by.	1.85

Nitrate of potash into nitrogen, multiply by.....	0.139
Carbonate of potash into actual potash, multiply..	0.681
Actual potash into carbonate of potash, multiply..	1.466
Chlorine, in "kainit," multiply potash (K_2O) by..	2.33

For instance, you buy 95 per cent. nitrate of soda, and want to know how much nitrogen is in it, multiply 95 per cent. by 0.1647, you will get 15.65 per cent. nitrogen; you want to know how much ammonia this nitrogen is equivalent to, then multiply 15.65 per cent. by 1.214, and you get 18.90 per cent., the equivalent in ammonia.

Or, to convert 90 per cent. carbonate of potash into actual potash (K_2O), multiply 90 by 0.681, equals 61.29 per cent. actual potash (K_2O).

COMPOSITION OF FERTILIZER MATERIALS.

NITROGENOUS MATERIALS.

	Pounds Per Hundred.		
	Ammonia.	Total Phosphoric Acid.	Potash.
Nitrate of Soda..........	17 to 19	....	....
Sulphate of Ammonia....	21 to 26	....	....
Dried Blood	12 to 17	....	....
Concentrated Tankage...	12 to 15	1 to 4	....
Bone Tankage	6 to 9	10 to 15	....
Dried Fish Scrap........	6 to 11	3 to 8	....
Cotton Seed Meal........	7 to 10	2 to 3	1 to 2
Hoof Meal	13 to 17	1 to 2	1 to 2

PHOSPHATE MATERIALS.

	Pounds per Hundred.		
	Ammonia.	Available Phos. Acid.	Insoluble Phos. Acid.
Florida Pebble Phosphate.	....	....	26 to 32
Florida Rock Phosphate..	....	....	30 to 35
Florida Super Phosphate.	....	14 to 45	1 to 3
Ground Bone	3 to 6	5 to 8	15 to 17
Steamed Bone	1 to 4	6 to 9	10 to 20
Dissolved Bone	2 to 4	13 to 15	2 to 3

POTASH MATERIALS AND FARM MANURES.

	Pounds Per Hundred.			
	Actual Potash.	Am'onia.	Phos. Acid.	Lime.
Muriate of Potash......	50 to 62	....	....	....
Sulphate of Potash.....	48 to 52	....	....	....
Carbonate of Potash....	55 to 60	....	....	....
Nitrate of Potash.......	40 to 44	12 to 16	....	....
Dbl. Sul. of Pot. and Mag.	25 to 30	....	....	....
Kainit	12 to 13	....	....	....
Sylvinit	16 to 20	....	....	....
Cotton Seed Hull Ashes..	15 to 30	....	7 to 9	10
Wood Ashes, unleached.	2 to 8	....	1 to 2	....
Wood Ashes, leached....	0 to 2	....	1 to 1½	35 to 40
Tobacco Stems	3 to 9	2 to 4	....	3
Cow Manure (fresh)....	0.45	0.50	0.30	0.30
Horse Manure (fresh)..	0.50	0.60	0.25	0.30
Sheep Manure (fresh)..	0.60	1.00	0.35	0.35
Hog Manure (fresh)....	0.30	1.00	0.40	0.10
Hen Dung (fresh)......	0.85	1.75	1.25	0.25
Mixed Stable Manure...	0.50	0.75	0.50	0.70

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS.

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Maiden Cane Hay.....	28.60	11.60	42.40	2.60	4.20
Natal Grass Hay......	36.70	7.40	39.20	1.80	5.00
Para Grass Hay......	31.20	8.00	45.70	1.60	6.20
Rhodes Grass Hay....	41.10	7.70	36.80	1.30	6.60
Beggarweed Hay......	24.30	21.60	35.10	4.10	4.00
Kudzu Vine Hay......	32.30	15.90	33.00	1.60	6.80
Cow Pea Hay.........	20.50	13.00	45.90	4.20	7.50
Velvet Bean Hay.....	29.70	14.70	41.00	1.70	5.70
Velvet Beans	7.00	21.00	53.10	5.40	3.60
Velvet Bean Hulls....	27.00	7.50	44.60	1.60	4.30
Velvet Beans and Hulls	10.70	19.40	50.60	4.50	3.50
Cow Peas	4.10	20.80	55.70	1.40	3.20
Soy Bean Meal.......	4.50	48.40	27.50	6.40	4.40
Peanut Vine Meal.....	29.60	9.90	38.40	6.30	6.60
Cotton Seed..........	23.20	18.40	24.70	19.90	3.50
Cotton Seed Hulls....	44.40	4.00	36.60	2.00	2.60
Bright Cotton S'd Meal	9.40	38.62	28.60	7.80	5.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Dark Cotton Seed Meal	20.00	23.15	37.10	5.50	5.00
Corn Grain...........	2.10	10.50	69.60	5.40	1.50
Corn Meal............	1.90	9.70	68.70	3.80	1.40
Hominy Feed.........	4.00	10.50	65.30	7.80	2.60
Corn and Cob Meal....	5.80	7.50	70.80	3.10	1.20
Ground Corn Shucks..	30.20	2.80	54.60	0.60	1.90
Ground Corn Cobs....	30.00	3.00	56.60	0.70	1.60
Equal parts, Corn in Shucks & V'lv't Beans	16.03	12.56	53.71	2.32	4.33
Oats (grain)	9.50	11.80	59.70	5.00	3.00
Rice (grain)	0.20	7.40	79.20	0.40	0.40
Rice Bran.............	9.50	12.10	49.90	8.80	10.00
Wheat (grain)	1.80	11.90	71.90	2.10	1.80
Wheat Bran..........	9.00	15.40	53.90	4.00	5.80
Wheat Middlings	5.40	15.40	59.40	4.10	3.20
Wheat Mixed Feed....	7.80	16.90	54.40	4.80	5.30
Wheat Ship Stuff.....	5.60	14.60	59.80	5.00	3.70
Dry Jap Sugar Cane..	26.20	2.30	62.60	1.50	2.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract)	Fat.	Ash.
Peanut Hulls	56.60	7.30	18.90	2.60	5.50
Peanut, with Hulls.	16.40	20.40	16.40	36.20	4.10
Peanut Kernel	2.60	26.40	17.50	44.90	2.20
Peanut Meal (without Hulls)	5.10	47.60	23.70	8.00	4.90
Peanut Feed (including Hulls)	23.40	28.40	27.00	11.00	5.50

COMMERCIAL STATE VALUES OF FEED STUFF FOR 1920.

For the season 1920 the following "State values" are fixed as a guide to purchasers, quotation April 1st.

These values are based on the current prices of corn, which has been chosen as a standard in fixing the commercial values, the price of corn, to a large extent, governing the price of other feeds, pork, beef, etc.:

$3.25 per sack of 100 lbs., $1.82 per bu., 56 lbs.

To find the commercial State value, multiply the percentages by the price per unit.

A unit being 20 pounds (1%) of a ton.

Protein, 6.8c per pound	$1.36 per unit
Starch and sugar, 3.1c per pound	.62 per unit
Fat, 6.8c per pound	1.36 per unit

EXAMPLE NO. 1.

Corn and Oats, Equal Parts:

Protein	11.15 x 1.36,	$15.16
Starch and Sugar	64.65 x .62,	40.08
Fat	5.20 x 1.36,	7.07
State value, per ton		$62.31

EXAMPLE NO. 2.

Corn:

Protein	10.50 x 1.36,	$14.28
Starch and Sugar	69.60 x .62,	43.15
Fat	5.40 x 1.36,	7.34
State value, per ton		$64.77

COPIES OF LAWS, RULES AND REGULATIONS AND STANDARDS.

Citizens of the State interested in fertilizers, foods and drugs, and stock feed, can obtain, free of charge, the respective laws, including rules and regulations and standards, by applying to the Commissioner of Agriculture, or State Chemist. Application for the Quarterly Bulletin of the State Department of Agriculture should also be made to the Commissioner of Agriculture, or State Chemist. The bulletins of the Florida Agricultural Experiment Station can be had by application to the Director at Gainesville.

The form letter for transmitting special samples of fertilizers or feeding stuffs as shown in the rules and regulations is adopted and must be explicitly complied with in order to obtain a legal certificate of analysis.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. SPECIAL FERTILIZER ANALYSES, 1920. GORDON HART, Assistant Chemist.
Samples Taken by Purchaser Under Section 9, Act Approved May 22, 1901.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	5319	9.65	6.85	8.25	15.10	4.55	4.32	J. L. Dillard, Orlando.
Fertilizer	5320	7.52	8.25	0.35	8.60	4.00	3.26	J. H. Finch, Marianna.
"Nitrapo"	5321	0.87	.....	.....	.....	18.35	16.08	J. F. Smith, Sanford.
Fertilizer	5322	12.17	6.80	1.75	8.55	4.53	4.06	Joe Fernandez, Sanford.
Mixed Fertilizer	5323	7.02	7.12	0.48	7.60	6.14	5.40	H. H. Chappell, Sanford.
Fertilizer	5324	9.77	9.80	0.60	10.40	5.78	0.69	Harley Ward, Winter Park.
Mixed Fertilizer	5325	14.22	5.02	5.55	10.57	4.87	2.55	M. E. Card, Fort Pierce.
Mixed Fertilizer	5326	8.80	4.93	0.82	5.75	4.88	2.84	Borax-None, A. R. Meriwether, Sanf'd.

Mixed Fertilizer	5327	9.87	5.12	1.70	6.82	4.91	5.98	Borax-None, L. G. Hunter, Sanford.
Mixed Fertilizer	5328	13.35	8.80	0.75	9.55	3.73	4.14	Borax-None, L. A. Brumley, Sanford.
Cotton Seed Meal	5329	8.72	.....	.....	.....	9.10	.....	Palmer Slyvester, Hinson.
Fertilizer	5330	0.22	.....	.....	.....	.....	48.75	A. J. Dozier, Arcadia.
Fertilizer (B 4-26-20)	5331	8.15	11.12	0.50	11.62	4.45	2.46	S. Wittenstein, Orlando.
Fertilizer (A 4-26-20)	5332	9.75	8.75	2.00	10.75	3.36	7.10	S. Wittenstein, Orlando.
Fertilizer	5333	14.62	11.55	1.15	12.70	2.09	2.80	G. E. Kemp, Havana.
Fertilizer	5334	20.00	10.30	0.63	10.93	0.00	3.97	G. E. Kemp, Havana.
Fertilizer	5335	9.02	9.77	1.00	10.77	5.05	3.92	L. B. Skinner, Dunedin.
Mixed Fertilizer	5336	9.72	6.85	3.00	9.85	4.91	5.30	Tropical Vegetable Co., Sanford.
Mixed Fertilizer	5337	7.45	4.55	2.35	6.90	5.27	5.22	W. J. Thigpen, Sanford.
Mixed Fertilizer	5338	9.82	5.20	4.40	9.60	4.24	3.30	Joe Fernandez, Sanford.
Mixed Fertilizer	5339	8.37	4.50	2.32	6.82	5.09	4.64	L. A. Brumley, Sanford.
Mixed Fertilizer	5340	17.52	5.08	2.72	7.80	3.99	2.34	D. S. Graham, Chiefland.
Fertilizer	5341	8.32	6.03	6.92	12.95	4.61	2.12	Dr. S. McAlroy, Orlando.
Fertilizer	5342	9.25	8.18	6.07	14.25	4.35	1.90	J. R. Springer, Orlando.

SPECIAL FERTILIZER ANALYSIS, 1920.—Continued.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Mixed Fertilizer	5343	11.07	5.13	4.02	9.15	4.36	3.34	Borax 0.50, A. P. Connelly, Sanford.
Goat Manure	5344	18.80	2.07	0.08	2.15	2.29	2.74	Borax-None. Royal Fern Co., Sanford.
Mixed Fertilizer	5345	7.57	6.95	6.37	13.32	3.93	2.08	Borax, 0.0065. Royal Fern Co., Sanford.
Mixed Fertilizer	5346	7.47	5.17	0.55	5.72	4.82	3.18	Meriwether & Flowers, Sanford.
Fertilizer	5347	9.22	8.35	2.25	10.60	3.47	4.76	E. S. Lawrence, Orlando.
Fertilizer	5348	10.70	9.63	2.87	12.50	4.04	5.54	Manatee Fruit Co., Palmetto.
Fertilizer	5349	8.82	9.50	3.50	13.00	5.14	3.48	Manatee Fruit Co., Palmetto.
Fertilizer	5350	5.47	8.97	1.45	10.42	3.64	0.70	Geo. W. Hopkins, Deer Park.
Mixed Fertilizer	5351	5.57	5.40	3.00	8.40	4.95	2.10	J. M. Evans, Sanford.
Mixed Fertilizer (No. 2)	5352	8.17	4.85	7.10	11.95	4.79	3.86	J. M. Evans, Sanford.

Mixed Fertilizer	5353	10.50	5.67	4.50	10.17	4.73	3.60	Thrasher Bros., Sanford.
Fertilizer	5354	9.42	8.93	0.82	9.75	3.77	2.58	H. S. Miller, Homestead.
Fertilizer	5355	7.75	8.25	1.25	9.50	3.18	5.10	The Hubbell Fruit Co., Palmetto.
Raw Ground Bone	5356	6.87	8.88	14.62	23.50	5.09	.....	H. E. Heitman, Ft. Myers.
Fertilizer	5357	9.65	11.23	2.07	13.30	4.55	3.86	Manatee Fruit Co., Palmetto.
Fertilizer	5358	9.57	9.82	0.80	10.62	5.00	4.72	H. Levine, Orlando.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. OFFICIAL FERTILIZER ANALYSES, 1920. GORDON HART, Assistant Chemist.
Samples Taken by Inspectors Under Sections 1 and 2, Act Approved May 22, 1901.
Deficiencies greater than 0.20% are distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	*Analyses.* Guaranteed and Found.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Nitrate of Soda	2562	Guaranteed	.....	.....	.....	.....	18.00	.....	Amer. Agricultural Chemical Co., Jacksonville.
		Found	1.79	.....	.....	.....	19.07	.....	
H. G. Dried Blood	2563	Guaranteed	.....	.....	.....	.....	16.00	.....	Amer. Agricultural Chem.-ical Co., Jacksonville.
		Found	9.81	.....	.....	.....	18.05	.....	
L. G. Blood and Bone	2564	Guaranteed	10.00	.....	.....	.....	6.00	.....	Amer. Agricultural Chemical Co., Jacksonville.
		Found	5.08	7.62	9.70	17.32	8.37	.....	
Castor Meal	2565	Guaranteed	8.00	.....	.....	.....	5.00	0.50	Wilson & Toomer Fertz. Co., Jacksonville.
		Found	7.92	.....	.....	.....	6.27	0.46	
N. A. C. Sulphate Potash	2566	Guaranteed	.....	.....	.....	.....	.....	50.00	Nitrate Agencies Co., Jacksonville.
		Found	4.36	.....	.....	.....	.....	43.36	

N. A. C. Special Mixture	2567	Guaranteed	9.00	6.00	.....	.....	5.00	3.00	Nitrate Agencies Co., Jacksonville.
		Found.....	7.24	8.93	0.20	9.13	6.73	3.54	
Fertilizer	2568	Guaranteed	10.00	7.50	1.50	.....	5.00	5.00	Amer. Agricultural Chemical Co., Jacksonville.
		Found.....	11.32	6.85	2.60	9.45	5.14	5.44	
Extra Fruit and Vine	2569	Guaranteed	10.00	8.00	1.00	9.00	3.00	3.00	Gulf Fertilizer Co., Tampa, Fla.
		Found.....	9.05	8.30	7.00	15.30	4.44	3.46	
Exchange Perfection Citrus G'wr.	2570	Guaranteed	10.00	6.00	.....	10.00	4.00	3.00	Exchange Supply Co., Tampa, Fla.
		Found.....	7.50	7.60	2.00	9.60	4.85	3.52	
Cane and Corn Special	2571	Guaranteed	12.00	6.00	.....	10.00	3.00	1.00	West Coast Fertilizer Co., Tampa, Fla.
		Found.....	11.02	9.00	5.00	14.00	3.51	2.20	
Exchange Summer Citrus Fertz..	2572	Guaranteed	10.00	8.00	1.00	.....	2.50	5.00	Exchange Supply Co., Tampa, Fla.
		Found.....	8.65	7.93	2.87	10.80	3.18	4.86	
Gulf Special Grower............	2573	Guaranteed	8.00	6.00	1.00	7.00	4.00	1.00	Gulf Fertilizer Co., Tampa, Fla.
		Found.....	7.80	6.15	9.50	15.65	5.15	1.30	
Exchange Citrus Fertz. No. 7....	2574	Guaranteed	10.00	8.00	1.00	.....	4.00	4.00	Exchange Supply Co., Tampa, Fla.
		Found.....	9.22	7.38	3.12	10.50	4.59	4.40	
Bowker's Nassau Guano........	2575	Guaranteed	10.00	8.00	2.00	.....	2.00	2.00	The Coe-Mortimer Co., Jacksonville, Fla.
		Found.....	10.60	7.40	3.50	10.90	2.71	2.22	
German Kainit	2576	Guaranteed	12.00	.....	.....	.....	.....	12.00	Virginia-Carolina Chemical Co., Jacksonville, Fla.
		Found.....	2.82	.....	.....	.....	.....	12.90	

OFFICIAL FERTILIZER ANALYSIS, 1920.—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
H. G. Sea Island Fertz.	2577	Guaranteed	10.00	9.00	1.00	.....	2.00	3.00	Virginia-Carolina Chemical
		Found.....	9.95	9.22	0.75	9.97	1.91	3.46	Co., Jacksonville, Fla.
Special Tree Mixture	2578	Guaranteed	12.00	5.00	.....	8.00	4.00	1.00	West Coast Fertilizer Co.,
		Found.....	10.40	6.40	8.57	14.97	4.00	1.52	Tampa, Fla.
Acid Phosphate	2579	Guaranteed	10.00	16.00	1.00	.....	.....	.....	Armour Fertilizer Co.,
		Found.....	9.70	15.77	1.10	16.87	.....	.....	Jacksonville, Fla.
Sweet Potato Special	2580	Guaranteed	10.00	6.00	.....	6.00	3.00	2.00	West Coast Fertilizer Co.,
		Found.....	12.67	5.95	8.30	14.25	3.18	2.18	Tampa, Fla.
Bakers Fruit and Vine Manure ..	2581	Guaranteed	10.00	8.00	3.00	11.00	3.00	5.00	Amer. Agricultural Chemical Co., Jacksonville
		Found.....	6.47	7.55	7.00	14.35	3.87	4.80	
General Crop Fertz. (No. 3)	2582	Guaranteed	10.00	8.00	1.00	.....	4.00	3.00	Armour Fertilizer Works,
		Found.....	13.82	8.25	0.60	8.85	4.09	4.66	Jacksonville, Fla.
Special Vegetable Mixture	2583	Guaranteed	12.00	6.00	.....	8.00	4.00	1.00	West Coast Fertz. Co.,
		Found.....	14.22	6.58	7.57	14.15	3.81	1.48	Tampa, Fla.

Special Fruit and Vine	2584	Guaranteed	10.00	8.00	1.00	9.00	3.00	5.00	The Gulf Fertilizer Co.,
		Found.....	10.42	7.75	5.87	13.62	3.69	6.78	Tampa, Fla.
Excahnge Perfected Citrus G'wr.	2585	Guaranteed	10.00	6.00	4.00	.....	4.00	3.00	Exchange Supply Co.,
		Found.....	10.00	5.80	6.30	12.10	4.09	3.02	Tampa, Fla.
Extra Fruit and Vine	2586	Guaranteed	10.00	8.00	1.00	9.00	3.00	3.00	The Gulf Fertilizer Co.,
		Found.....	8.90	7.45	8.05	15.50	3.23	3.32	Tampa, Fla.
	2587	Guaranteed	10.00	8.00	1.00	.....	4.00	2.00	Suspended for further investigation.
		Found.....	11.72	7.65	0.85	8.50	2.94	2.58	
Special Fruit and Vine	2588	Guaranteed	10.00	8.00	1.00	9.00	3.00	5.00	The Gulf Fertilizer Co.,
		Found.....	8.20	7.65	5.55	13.20	3.18	5.70	Tampa, Fla.
Wauchula Cuke Special	2589	Guaranteed	12.00	6.00	.....	8.00	5.00	2.00	West Coast Fertilizer Co.,
		Found.....	10.35	7.30	5.70	13.00	6.20	1.52	Tampa, Fla.
Special Vegetable (No. 1)	2590	Guaranteed	8.00	5.00	.....	10.00	4.00	2.00	West Coast Fertilizer Co.,
		Found.....	14.74	6.90	5.10	12.00	4.00	1.44	Tampa, Fla.
Special Formula for Peanuts	2591	Guaranteed	10.00	10.00	2.00	.....	1.00	1.00	Southern Cotton Oil Co.,
		Found.....	9.05	10.65	0.80	11.45	1.27	0.90	Montgomery, Ala.
Pure Gold Mixture	2592	Guaranteed	11.00	11.00	2.00	.....	3.00	.....	Southern Cotton Oil Co.,
		Found.....	8.50	10.90	0.75	11.65	3.10	.....	Montgomery, Ala.
Early Bird Florida Vege. Manure	2593	Guaranteed	10.00	6.00	0.50	.....	4.00	3.00	Osceola Fertilizer Co.,
		Found.....	7.85	5.43	1.80	7.23	3.96	3.14	Jacksonville, Fla.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. ROSE, State Chemist. OFFICIAL FEEDING STUFF ANALYSES, 1920. E. PECK GREENE, Asst. Chemist.
Samples Taken by State Chemist and State Inspectors Under Sections 1, 2 and 13, Act Approved May 24, 1905.
Deficiencies Greater than 0.20% are Distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Mim Sweet Feed	3049	Guaranteed	15.00	9.00	50.00	2.00	......	The Buckeye Cotton Oil Co.,
		Found.....	13.70	9.08	54.93	3.20	5.94	Memphis, Tenn.
Peerless Horse and Mule Feed..	3050	Guaranteed	12.00	10.00	55.00	2.00	......	Omaha Alfalfa Milling Co.,
		Found.....	14.31	11.19	**54.35**	2.76	4.48	Omaha, Neb.
Little Jo Dairy Feed	3051	Guaranteed	12.00	10.00	55.00	2.00	......	Just Mills, Nashville, Tenn.
		Found.....	9.66	11.10	**54.42**	3.52	8.59	
Ky. Choice Mixed Feed	3052	Guaranteed	8.50	15.00	57.50	4.00	......	The Acme Mills, Hopkins--
		Found.....	7.20	25.45	**46.75**	4.00	7.00	ville, Ky.
Southern Scratch Feed	3053	Guaranteed	10.00	9.00	60.00	2.50	......	J. T. Gibbons, New Orleans,
		Found.....	2.32	11.18	68.98	2.75	1.72	La.
Dried Beet Pulp	3054	Guaranteed	20.00	8.00	58.00	0.50	2.50	The Larrowe Milling Co.,
		Found.....	15.57	10.18	57.95	**0.23**	3.65	Detroit, Mich.

Good Cotton Seed Meal	3055	Guaranteed	14.00	36.00	27.00	5.50	......	Central Oil Co., Macon, Ga.
		Found.....	13.23	**33.22**	33.55	5.50	5.85	
Buco Cotton Seed Feed	3056	Guaranteed	27.00	20.00	38.00	3.50	......	The Buckeye Cotton Oil Co., Cincinnati, O.
		Found.....	21.72	**17.55**	41.82	4.02	4.07	
Purity Wheat Feed	3057	Guaranteed	8.00	15.00	55.00	3.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	6.75	16.02	56.53	3.35	5.35	
Wheat Bran with Screenings ..	3058	Guaranteed	11.00	15.00	55.00	3.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	9.25	15.18	**52.87**	3.60	6.55	
Schumacher Feed	3059	Guaranteed	11.00	10.00	62.00	3.25	......	The Quaker Oats Co., Chicago, Ill.
		Found.....	7.37	13.25	**56.31**	4.50	7.47	
Second-class Cotton Seed Meal..	3060	Guaranteed	......	36.05	......	......	......	Central Oil Co., Macon, Ga.
		Found.....	......	**35.02**	......	......	......	
Second-class Cotton Seed Meal..	3061	Guaranteed	......	36.05	......	......	......	Central Oil Co., Macon, Ga.
		Found.....	......	**29.35**	......	......	......	
Chieftain Horse Feed	3062	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	12.16	9.48	**53.10**	2.34	6.60	
Butter Fat Dairy Feed	3063	Guaranteed	16.50	18.00	55.00	4.00	......	Golden Grain Milling Co., East St. Louis, Ill.
		Found.....	13.07	19.83	**43.05**	4.15	7.38	
Tip-Top Molasses Feed	3064	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon, Ga.
		Found.....	15.00	9.31	49.52	2.02	7.54	

OFFICIAL FEEDING STUFF ANALYSIS, 1920—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber	Protein.	Starch and Sugar (Nitrogen Free Extract.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER
Opco No. 2 Medium Grain Mixture	3065	Guaranteed	15.00	9.00	48.00	2.00	......	Owensboro Produce Co., Owensboro, Ky.
		Found.....	10.19	9.78	54.71	2.68	7.06	
Golden Sweet Mule Feed	3066	Guaranteed	18.00	9.00	55.00	2.00	......	The Quaker Oats Co., Chicago, Ill.
		Found.....	16.36	9.76	52.62	2.07	6.73	
Big Mule Molasses Feed Mixture	3067	Guaranteed	15.00	10.00	50.00	2.50	......	The Quaker Oats Co., Chicago, Ill.
		Found.....	14.64	8.88	55.18	2.50	6.21	
Peanut Feed	3068	Guaranteed	27.00	......	22.00	......	......	Camilla Cotton Oil and Fertilizer Co., Camilla, Ga.
		Found.....	38.11	24.00	19.46	5.51	3.87	
Peanut Feed	3069	Guaranteed	27.00	......	22.00	......	......	Camilla Cotton Oil and Fertilizer Co., Camilla, Ga.
		Found.....	34.24	24.04	21.72	5.55	5.64	
Peanut Feed	3070	Guaranteed	27.00	......	22.00	......	......	Camilla Cotton Oil and Fertilizer Co., Camilla, Ga.
		Found.....	33.75	24.92	20.53	6.05	5.75	
Peanut Feed	3071	Guaranteed	27.00	......	22.00	......	......	Camilla Cotton Oil and Fertilizer Co., Camilla, Ga.
		Found.....	32.32	24.32	22.60	6.27	6.10	

Second-class Cotton Seed Meal.	3072	Guaranteed	......	36.05	......	......	......	Florida Cotton Oil Co., Jacksonville, Fla.
		Found.....	......	37.85	......	......	......	
Look-Out Horse and Mule Feed.	3073	Guaranteed	15.00	9.00	45.00	2.00	......	Monarch Mills, Chattanooga, Tenn.
		Found.....	13.14	10.06	48.90	2.76	6.91	
Over-the-Top Horse and Mule Feed	3074	Guaranteed	15.00	10.00	50.00	2.50	......	South Georgia Milling Co., Valdosta, Ga.
		Found.....	11.83	10.87	47.43	2.63	7.51	
Stra-Lad Horse Feed	3075	Guaranteed	11.00	9.50	55.00	2.50	......	Straton-Landish Milling Co., Milwaukee Wis.
		Found.....	9.12	11.50	61.66	3.70	3.20	
Vaca Dairy Feed	3076	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull and Fibre Co., Memphis, Tenn.
		Found.....	27.70	15.14	39.62	2.52	3.97	
Wheat Middlings with Screenings	3077	Guaranteed	6.50	17.00	55.00	4.00	......	Geo. P. Plant Milling Co., St. Louis, Mo.
		Found.....	6.35	17.37	56.46	4.35	4.42	
Purity Wheat Feed	3078	Guaranteed	8.00	15.00	55.00	3.50	......	John Wade & Sons, Memphis, Tenn.
		Found.....	7.60	15.80	55.56	4.32	5.50	
Purina O-Molene Feed	3079	Guaranteed	8.00	9.70	61.00	3.20	......	Purina Mills, St. Louis, Mo.
		Found.....	6.27	10.23	65.70	3.00	3.21	
Molasses Feed	3080	Guaranteed	15.00	9.00	55.00	2.00	......	J. T. Gibbons, New Orleans, La.
		Found.....	13.67	10.21	52.19	2.12	7.43	
Buckra Horse and Mule Feed..	3081	Guaranteed	15.00	9.00	54.00	2.00	......	Dyersburg Milling Co., Dyersburg, Tenn.
		Found.....	12.11	9.31	50.00	1.80	8.56	

OFFICIAL FEEDING STUFF ANALYSIS, 1920—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses Guaranteed and Found	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Mim Sweet Feed	3082	Guaranteed	15.00	9.00	50.00	2.00	......	The Buckeye Cotton Oil Co.,
		Found.....	16.38	10.32	48.76	2.92	7.95	Memphis, Tenn.
Vaca Dairy Feed	3083	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull and
		Found.....	30.40	18.16	34 15	2.52	3.62	Fibre Co., Memphis, Tenn.
Scoco Cotton Seed Feed	3084	Guaranteed	27.00	20.00	38.00	3.50	......	The Southern Cotton Oil Co.,
		Found.....	19.60	24.57	35.89	3.57	5.10	Pensacola, Fla.
Kamillo Brand Feed	3085	Guaranteed	25.00	30.00	22.00	6.00	......	Camilla Oil and Fertilizer
		Found.....	32.94	27.03	20.61	6.70	3.92	Co., Camilla, Ga.
Best-Yet Molasses Feed	3086	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon,
		Found.....	20.32	12.34	43.09	2.74	9.22	
Purina O-Moline Feed	3087	Guaranteed	8.00	9.70	61.00	3.20	......	Purina Mills, St Louis, Mo.
		Found.....	9.55	10.02	62.88	2.50	4.47	
Peerless Horse and Mule Feed	3038	Guaranteed	12.00	10.00	55.00	2.00	......	Omaha Alfalfa Milling Co,
		Found.....	13.37	10.38	54.03	1.91	5.11	Omaha, Neb.

Oatrashun Stock Feed	3089	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	14.19	10.81	53.30	1.97	6.63	
Alfo-Sweet H. & M. Feed	3090	Guaranteed	13.50	9.00	55.00	2.00	......	Alfcorn Milling Co., East St. Louis, Ill.
		Found.....	12.75	10.25	54.08	2.39	7.59	
Molasses Feed	3091	Guaranteed	15.00	9.00	55.00	2.00	......	J. T. Gibbons, New Orleans, La.
		Found.....	14.73	11.25	48.45	2.83	6.99	
Vaca Dairy Feed	3092	Guaranteed	29.00	14.50	38.00	2.50	......	Memphis Cotton Hull and Fibre Co., Memphis, Tenn.
		Found.....	26.72	14.92	40.69	2.50	3.85	

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY

FOOD AND DRUG SECTION.

R. E. ROSE, State Chemist. SPECIAL FOOD ANALYSIS, 1920. A. M. HENRY, Asst. Chemist.

Samples Taken by Purchaser Under Section 12, Act Approved June 5, 1911.

BEVERAGES.

No.	LABEL.	CONTENTS	Alcohol (per cent by volume.)	Solids (Per Cent)	BY WHOM SENT.
2001	Beverage No. 4.	....	9.56	......	R. L. Millinor, Madison.
2002	Beverage No. 5.	....	8.47	......	R. L. Millinor, Madison.
2003	Beverage No. 6.	....	7.56	......	R. L. Millinor, Madison.
2004	N. A. B. in bottles, Nick Peters.	....	0.24	......	J. H. Harvell, Milton.
2005	N. A. B. on draft, A. D. Lindsay.	....	0.47	......	J. H. Harvell, Milton.
2006	Apple Cider, C. H. Knight.	....	0.24	......	J. H. Harvell, Milton.
2007	Virginia Dare Wine, Nick Peters.	....	0.30	......	J. H. Harvell, Milton.

2008	Buck.		6.48		W. F. Banks, Tallahassee.
2012	Canadian Club Whiskey.		41.65		Prosecuting Attorney, Palm Beach County.
2013	Old Irish Whiskey.		42.10		Prosecuting Attorney, Palm Beach County.
2014	Beverage No. 7.		7.09		R. L. Millinor, Madison.
2019	Wine, Ida Miller.		13.61		W. H. Lyle, Live Oak.

DEPARTMENT OF AGRICULTURE — DIVISION OF CHEMISTRY.

R. E. ROSE, State Chemist. **OIL SECTION.** E. T. CASLER, Asst. Chemist.

OFFICIAL GASOLINE ANALYSES, 1920.

Samples Taken by State Inspectors Under Act Approved June 4th, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
436	Gasoline	58.2	48	27	70	92	97	220	W. H. Mapoles..	Gulf Refining Co., Woodville.
437	Gasoline	59.1	43	30	65	93	97	217	W. H. Mapoles..	Standard Oil Co., Wakulla.
438	Gasoline	59.1	48	35	69	93	97	216	W. H. Mapoles..	The Texas Co., St. Marks.
439	Gasoline	58.1	48	29	65	92.5	96	211	W. H. Mapoles..	Standard Oil Co., Crawfordville.
440	Gasoline	59.1	45	28	62	92	96	215	W. H. Mapoles..	Standard Oil Co., Wakulla.
441	Gasoline	58.1	50	25	62	93	97	218	G. B. Hills......	Standard Oil Co., Boca Grande
442	Gasoline	59.5	50	39	76	95	97	202	G. B. Hills......	Gulf Refining Co., Boca Grande.

443	Gasoline	58.1	47	42	76	95	97	205	G. B. Hills......	Gulf Refining Co., Arcadia.
444	Gasoline	57.7	55	31	67	93	97	218	G. B. Hills......	The Texas Co., Arcadia.
445	Gasoline	58.3	49	28	63	93	97	215	G. B. Hills......	Standard Oil Co., Arcadia.
446	Gasoline	58.0	46	43	75	95	97	206	G. B. Hills......	Gulf Refining Co., Arcadia.
447	Gasoline	58.7	47	27	62	93	97	218	E. M. Johns.....	Standard Oil Co., Baldwin.
448	Gasoline	58.7	48	27	62	93	97	217	E. M. Johns.....	Standard Oil Co., Baldwin.
449	Gasoline	59.0	46	27	62	93	97	218	E. M. Johns.....	Standard Oil Co., Macclenny.
450	Gasoline	59.0	45	36	69	93	97	215	E. M. Johns.....	The Texas Co., Macclenny.
451	Gasoline	59.0	45	28	62	93	97	218	E. M. Johns.....	Standard Oil Co , Macclenny.
452	Gasoline	59.0	44	27	62	93	97	217	E. M. Johns.....	Standard Oil Co , Macclenny.
453	Gasoline	58.1	47	43	75	95	97	208	G. B. Hills......	Gulf Refining Co., Plant City.
454	Gasoline	58.3	48	25	60	93	97	218	G. B. Hills......	Standard Oil Co., Plant City.
455	Gasoline	58.1	48	43	75	95	97	208	G. B. Hills......	Gulf Refining Co., Plant City.
456	Gasoline	58.3	48	25	60	92	97	219	G. B. Hills......	Standard Oil Co., Plant City.
457	Gasoline	58.1	46	43	75	95	97	209	G. B. Hills......	Gulf Refining Co., Plant City.
458	Gasoline	58.1	47	43	75	95	97	208	G. B. Hills......	Gulf Refining Co., Plant City.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
459	Gasoline	59.0	43	28	63	93	97	218	E. M. Johns.....	Standard Oil Co., Titusville.
460	Gasoline	59.1	47	35	68	93	97	216	E. M. Johns.....	Gulf Refining Co., Titusville.
461	Gasoline	59.1	43	29	63	93	97	218	E. M. Johns.....	Standard Oil Co., Cocoa.
462	Gasoline	58.8	48	34	73	93	97	218	E. M. Johns.....	Gulf Refining Co., Cocoa.
463	Gasoline	59.0	43	28	63	93	97	218	E. M. Johns.....	Standard Oil Co., Cocoa.
464	Gasoline	59.1	45	27	66	93	97	221	E. M. Johns.....	Standard Oil Co., Cocoa.
465	Gasoline	60.3	43	35	69	93	97	215	G. B. Hills......	Gulf Refining Co., Port Tampa.
466	Gasoline	59.6	45	32	66	92	97	218	G. B. Hills......	Gulf Refining Co., Port Tampa.
467	Gasoline	59.5	45	31	66	92	97	217	G. B. Hills......	Gulf Refining Co., Port Tampa.

468	Gasoline	58.5	48	27	62	93	97	216	G. B. Hills......	Standard Oil Co., Port Tampa.
469	Gasoline	59.0	45	27	64	93	97	219	G. B. Hills......	Standard Oil Co., Port Tampa.
470	Gasoline	58.5	48	27	62	93	97	216	G. B. Hills......	Standard Oil Co., Port Tampa.
471	Gasoline	59.0	47	28	65	93	97.5	218	E. M. Johns.....	Standard Oil Co., New Smyrna.
472	Gasoline	59.0	47	27	61	92	97	221	E. M. Johns.....	Standard Oil Co., New Smyrna.
473	Gasoline	59.0	54	35	74	94	97.5	217	E. M. Johns.....	Standard Oil Co., New Smyrna.
474	Gasoline	58.8	49	27	63	93	97	220	E. M. Johns.....	Standard Oil Co., DeLand.
475	Gasoline	59.0	48	34	69	93	97	216	E. M. Johns.....	Standard Oil Co., DeLand.
476	Gasoline	58.8	53	34	69	93	97	220	E. M. Johns.....	Gulf Refining Co., DeLand.
477	Gasoline	61.6	42	47	79	95	97	218	E. M. Johns.....	Gulf Refining Co., Jacksonville.
478	Gasoline	58.9	46	28	63	93	97	216	E. M. Johns.....	Standard Oil Co., Jacksonville.
479	Gasoline	58.6	49	34	70	93	97	217	E. M. Johns.....	The Texas Co., Jacksonville.
480	Gasoline	58.6	51	34	70	93	97	215	E. M. Johns.....	The Texas Co., Jacksonville.
481	Gasoline	58.9	46	28	62	92	97	218	E. M. Johns.....	The Texas Co., Jacksonville.
482	Gasoline	60.7	46	45	78	93.5	97	229	E. M. Johns.....	Gulf Refining Co., Jacksonville.
483	Gasoline	58.4	52	47	77	95	97	209	G. B. Hills......	Gulf Refining Co., Bartow.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boil-ing Point ° C	% Distillate Below 105 ° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	. . .	Not Above 60	20	50	90	95	Not Above 225		
484	Gasoline	58.9	48	28	64	93	97.5	216	G. B. Hills......	Standard Oil Co., Bartow.
485	Gasoline	57.7	56	33	70	93.5	97.5	218	G. B. Hills......	The Texas Co., Bartow.
486	Gasoline	57.7	54	33	70	93	97.5	218	G. B. Hills......	The Texas Co., Bowling Green.
487	Gasoline	58.6	49	26	63	93	97	222	G. B. Hills......	Standard Oil Co., Bowling Green.
488	Gasoline	58.3	46	41	74	95	97	215	G. B. Hills......	Gulf Refining Co., Bowling Green.
489	Gasoline	58.8	50	26	61	92	97	225	W. H. Mapoles..	Standard Oil Co., Lake City.
490	Gasoline	59.0	49	34	70	92	97	220	W. H. Mapoles..	Gulf Refining Co., Lake City.
491	Gasoline	58.8	50	35	70	93	97	213	W. H. Mapoles..	The Texas Co., Lake City.
492	Gasoline	59.0	47	27	63	92.5	96	219	W. H. Mapoles..	Standard Oil Co., Jasper.

493	Gasoline	59.0	47	28	63	93	97	218	W. H. Mapoles..	Standard Oil Co., Jasper.
494	Gasoline	59.0	47	28	63	93	97	218	W. H. Mapoles..	Standard Oil Co., Jasper.
495	Gasoline	58.8	49	28	64	92	97	223	G. B. Hills......	Standard Oil Co., Wauchulla.
496	Gasoline	57.8	48	41	74	93	97	211	G. B. Hills......	Gulf Refining Co., Wauchulla.
497	Gasoline	57.7	55	31	67	93	97	218	G. B. Hills......	The Texas Co., Wauchulla.
498	Gasoline	58.7	51	28	62	92	97	219	G. B. Hills......	Standard Oil Co., Wauchulla.
499	Gasoline	58.7	51	28	62	92	97	221	G. B. Hills......	Standard Oil Co., Zolfo.
500	Gasoline	58.5	48	42	74	95	97	208	G. B. Hills......	Gulf Refining Co., Zolfo.
501	Gasoline	58.9	52	27	63	92	97	221	W. H. Mapoles..	Standard Oil Co., Perry.
502	Gasoline	58.9	53	35	70	93	97	217	W. H. Mapoles..	Gulf Refining Co., Perry.
503	Gasoline	58.5	49	26	62	91.5	97	229	W. H. Mapoles..	Standard Oil Co., Perry.
504	Gasoline	58.7	55	35	70	93	97	216	W. H. Mapoles..	Gulf Refining Co., Perry.
505	Gasoline	58.9	52	28	62	92	97	218	W. H. Mapoles..	Standard Oil Co., Perry.
506	Gasoline	62.5	47	49	82	96	97	198	E. M. Johns.....	Gulf Refining Co., Jacksonville.
507	Gasoline	58.6	48	28	61	92	97	218	E. M. Johns.....	Standard Oil Co., Alachua.
508	Gasoline	58.8	51	33	67	93.5	97	215	E. M. Johns.....	The Texas Co., Newberry.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
509	Gasoline	58.8	49	28	62	92	97	220	E. M. Johns.....	Standard Oil Co., Newberry.
510	Gasoline	62.2	46	49	82	95	96.5	199	E. M. Johns.....	Gulf Refining Co., Jacksonville.
511	Gasoline	62.1	46	49	81	95	97	205	E. M. Johns.....	Gulf Refining Co., Jacksonville.
512	Gasoline	58.0	49	26	59	90	97	228	W. H. Mapoles..	Standard Oil Co., Mayo.
513	Gasoline	58.0	50	26	59	90	97	229	W. H. Mapoles..	Standard Oil Co., Mayo.
514	Gasoline	58.0	49	26	58	90	97	229	W. H. Mapoles..	Standard Oil Co., Mayo.
515	Gasoline	58.7	50	28	62	93	97	215	W. H. Mapoles..	Standard Oil Co., Live Oak.
516	Gasoline	58.7	53	33	67	93	97	217	W. H. Mapoles..	The Texas Co., Live Oak.
517	Gasoline	59.1	48	33	66	92	97	222	W. H. Mapoles..	Gulf Refining Co., Live Oak.

518	Gasoline	58.3	52	34	65	92	97.5	228	E. M. Johns.....	Nortex Refining Co., Palatka.
519	Gasoline	58.3	52	34	65.5	92	97.5	228	E. M. Johns.....	Nortex Refining Co., Palatka.
520	Gasoline	57.9	46	26.5	54	88.5	97	227	E. M. Johns.....	Peninsula State Oil Co., Palatka.
521	Gasoline	57.9	47	26	54	88.5	97	227	E. M. Johns.....	Peninsula State Oil Co., Palatka.
522	Gasoline	58.7	52	34	68.5	93	97	217	E. M. Johns.....	The Texas Co., Palatka.
523	Gasoline	58.1	51	25	61	92	97	220	G. B. Hills......	Standard Oil Co., Palmetto.
524	Gasoline	58.8	47	27	62	92	97	220	G. B. Hills......	Standard Oil Co., Palmetto.
525	Gasoline	58.1	51	43	76	95	97	206	G. B. Hills......	Gulf Refining Co., Bradentown.
526	Gasoline	58.0	50	43	75	94	97	211	G. B. Hills......	Gulf Refining Co., Bradentown.
527	Gasoline	58.1	53	25	60	92	97	220	G. B. Hills......	Standard Oil Co., Bradentown.
528	Gasoline	58.0	52	41	75	94	97	209	G. B. Hills......	Gulf Refining Co., Bradentown.
529	Gasoline	56.8	40	15	33	84	94	224	E. M. Johns.....	Twin City Oil Co., Daytona.
530	Gasoline	60.2	42	38	65	88.5	96	244	E. M. Johns.....	Nortex Refining Co., Daytona.
531	Gasoline	58.2	51	33	65	91	97	229	E. M. Johns.....	Nortex Refining Co., Daytona.
532	Gasoline	58.3	52	33	65	91	97.5	228	E. M. Johns.....	Nortex Refining Co., Palatka.
533	Gasoline	58.4	49	25	59	92	97	222	E. M. Johns.....	Standard Oil Co., Starke.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
534	Gasoline	58.7	46	28	62	92	97	222	E. M. Johns.....	Standard Oil Co., Starke.
535	Gasoline	57.9	48	44	76	95	97	210	G. B. Hills......	Gulf Refining Co., Ft. Myers.
536	Gasoline	58.2	48	44	75	94	97	208	G. B. Hills......	Gulf Refining Co., Ft. Myers.
537	Gasoline	58.1	49	26	61	92	97	218	G. B. Hills......	Standard Oil Co., Ft. Myers.
538	Gasoline	58.7	49	26	62	93	97	220	G. B. Hills......	Standard Oil Co., Ft. Myers.
539	Gasoline	58.2	50	25	60	92	97	221	G. B. Hills......	Standard Oil Co., Ft. Myers.
540	Gasoline	57.9	50	43	75	95	97	210	G. B. Hills......	Gulf Refining Co., Ft. Myers.
541	Gasoline	58.1	47	25	58	91	97	220	E. M. Johns.....	Standard Oil Co., Green Cove Springs.
542	Gasoline	58.1	46	28	60	91	97	218	E. M. Johns.....	Standard Oil Co., Green Cove Springs.

543	Gasoline	58.6	48	27	59	91	97	222	E. M. Johns.....	Standard Oil Co., Jacksonville.
544	Gasoline	62.2	45	49	81	96	97	200	E. M. Johns.....	Gulf Refining Co., Jacksonville.
545	Gasoline	58.8	45	28	60	91	97	222	E. M. Johns.....	Standard Oil Co., Jacksonville.
546	Gasoline	58.9	50	33	67	93	97	217	E. M. Johns.....	The Texas Co., Jacksonville.
547	Gasoline	58.7	46	28	59	91	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
548	Gasoline	58.5	47	28	60	91	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
549	Gasoline	58.7	46	28	60	91	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
550	Gasoline	58.5	46	29	60	90	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
551	Gasoline	58.5	46	28	60	91	97	225	W. H. Mapoles..	Standard Oil Co., Bagdad.
552	Gasoline	58.5	48	28	59	90	97	225	W. H. Mapoles..	Standard Oil Co., Bagdad.
553	Gasoline	58.8	50	36	70	93.5	97	215	G. B. Hills......	Gulf Refining Co., Ft. Meade.
554	Gasoline	57.9	52	24	60	92	97	224	G. B. Hills......	Standard Oil Co., Ft. Meade.
555	Gasoline	57.4	58	28	66	93	97.5	222	G. B. Hills......	The Texas Co., Ft. Meade.
556	Gasoline	57.8	54	24	60	92	97.5	223	G. B. Hills......	Standard Oil Co., Ft. Meade.
557	Gasoline	58.7	50	35	69	93	97	218	G. B. Hills......	Gulf Refining Co., Ft. Meade.
558	Gasoline	59.1	48	36	70	93	97	218	G. B. Hills......	Gulf Refining Co., Ft. Meade.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaumé	Initial Boiling Point °C	% Distillate Below 105 °C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point °C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
559	Gasoline	59.0	50	32	66	92	97	221	G. B. Hills......	Gulf Refining Co., Tampa.
560	Gasoline	58.9	50	34	69	93	97	217	G. B. Hills......	Gulf Refining Co., Tampa.
561	Gasoline	58.3	53	25	61	92.5	97	222	G. B. Hills......	Standard Oil Co., Tampa.
562	Gasoline	58.1	54	26	62	91	97	219	G. B. Hills......	Standard Oil Co., Tampa.
563	Gasoline	54.1	58	16	43	74	97	Above 270	G. B. Hills......	Standard Oil Co., Tampa.
564	Gasoline	57.7	58	30	67	93	97	218	G. B. Hills......	The Texas Co., Tampa.
565	Gasoline	58.4	53	25	63	92	97	224	G. B. Hills......	Standard Oil Co., Seffner.
566	Gasoline	57.6	58	30	69	93	97.5	222	G. B. Hills......	The Texas Co., Seffner
567	Gasoline	58.9	51	31	65	92	97	221	G. B. Hills......	Gulf Refining Co., Dover.

568	Gasoline	57.3	55	23	57	88	97	248	G. B. Hills......	Standard Oil Co., Lakeland.
569	Gasoline	57.6	59	30	67	93	97	220	G. B. Hills......	The Texas Co., Lakeland.
570	Gasoline	58.7	51	35	70	93	97	219	G. B. Hills......	Gulf Refining Co., Lakeland.
571	Gasoline	58.0	60	28	67	93	97	217	W. H. Mapoles..	Gulf Refining Co., Munson.
572	Gasoline	58.7	54	22	56	90	97	226	W. H. Mapoles..	Standard Oil Co., Munson.
573	Gasoline	58.7	48	28	61	90	97	227	W. H. Mapoles..	Standard Oil Co., Jay.
574	Gasoline	58.7	48	27	60	90	97	229	W. H. Mapoles..	Standard Oil Co., Jay.
575	Gasoline	58.6	48	27	60	90	97	227	W. H. Mapoles..	Standard Oil Co., Pace.
576	Gasoline	58.7	54	27	59	90.5	97	226	W. H. Mapoles..	Standard Oil Co., Pace.
577	Gasoline	58.4	54	23	59	92	97	222	E. M. Johns.....	Standard Oil Co., Ocala.
578	Gasoline	60.4	53	40	75	94	97	210	E. M. Johns.....	Gulf Refining Co., Ocala.
579	Gasoline	57.5	59	29	67	92	97	220	E. M. Johns.....	The Texas Co., Ocala.
580	Gasoline	58.0	54	23	60	92	97	223	E. M. Johns.....	Standard Oil Co., Ocala.
581	Gasoline	58.5	52	25	61	92	97	219	E. M. Johns.....	Standard Oil Co., Ocala.
582	Gasoline	58.2	54	24	60	93	97	221	E. M. Johns.....	Standard Oil Co., Ocala.
583	Gasoline	59.2	44	28	59	90	97	228	W. H. Mapoles..	Standard Oil Co., Mayo.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
534	Gasoline	58.1	48	26	58	90	97	228	E. M. Johns.....	Standard Oil Co., Mayo.
585	Gasoline	60.9	48	41	75	94	97	213	E. M. Johns.....	Gulf Refining Co., Jacksonville.
586	Gasoline	60.9	49	42	75	95	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
587	Gasoline	60.7	52	41	74	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
588	Gasoline	60.6	50	40	74	93	97	214	E. M. Johns.....	Gulf Refining Co., Jacksonville.
589	Gasoline	60.9	48	41	75	94	97	214	E. M. Johns.....	Gulf Refining Co., Jacksonville.
590	Gasoline	61.2	49	42	76	93	97	212	E. M. Johns.....	Gulf Refining Co., Jacksonville.
591	Gasoline	59.2	54	32	69	94	97	216	W. H. Mapoles..	Gulf Refining Co., Pensacola.
592	Gasoline	59.0	52	32	67	93	97	218	W. H. Mapoles..	Gulf Refining Co., Pensacola.

593	Gasoline	58.5	54	29	64	92	97	219	W. H. Mapoles..	Standard Oil Co., Pensacola.
594	Gasoline	57.1	54	25	63	93	98	221	W. H. Mapoles..	The Texas Co., Pensacola.
595	Gasoline	57.0	58	24	61	92	97	219	W. H. Mapoles..	The Texas Co., Pensacola.
596	Gasoline	58.5	52	28	65	92	97	218	W. H. Mapoles..	Standard Oil Co., Pensacola.
597	Gasoline	59.3	52	32	70	94	97	211	G. B. Hills......	The Texas Co., Tampa.
598	Gasoline	59.3	52	32	70	94	97	211	G. B. Hills......	The Texas Co., Tampa.
599	Gasoline	58.9	48	32	70	93	97	210	G. B. Hills......	The Texas Co., Tampa.
600	Gasoline	59.1	52	32	70	93	97	214	G. B. Hills......	The Texas Co., Tampa.
601	Gasoline	59.7	52	36	73	95	96.5	208	G. B. Hills......	The Texas Co., Tampa.
602	Gasoline	58.9	49	33	70	93	96	210	G. B. Hills......	The Texas Co., Tampa.
603	Gasoline	60.1	50	38	71	93	96.5	212	G. B. Hills......	Gulf Refining Co., Port Tampa.
604	Gasoline	59.8	49	34	69	92	96	214	G. B. Hills......	Gulf Refining Co., Port Tampa.
605	Gasoline	60.2	47	39	72	92	96	212	G. B. Hills......	Gulf Refining Co., Port Tampa.
606	Gasoline	60.1	50	37	71	93	96.5	212	G. B. Hills......	Gulf Refining Co., Port Tampa.
607	Gasoline	58.4	48	42	74	93	96	212	G. B. Hills......	Gulf Refining Co., Port Tampa.
608	Gasoline	58.5	50	43	75	94	97	212	G. B. Hills......	Gulf Refining Co., Port Tampa.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
609	Gasoline	59.1	55	32	68	94	97	213	W. H. Mapoles..	Gulf Refining Co., Pensacola.
610	Gasoline	58.9	58	30	66	93	97	215	W. H. Mapoles..	The Texas Co., Pensacola.
611	Gasoline	58.9	55	31	68	93	97	216	W. H. Mapoles..	Gulf Refining Co., Pensacola.
612	Gasoline	59.6	53	32	69	93	97	216	W. H. Mapoles..	Gulf Refining Co., Pensacola.
613	Gasoline	57.1	58	23	60	92	97	220	W. H. Mapoles..	The Texas Co., Pensacola.
614	Gasoline	58.1	48	27	59	90	97	228	W. H. Mapoles..	Standard Oil Co., Milton.
615	Gasoline	58.6	58	29	66	91	96	221	E. M. Johns.....	The Texas Co., Jacksonville.
616	Gasoline	58.4	56	29	66	91	96	221	E. M. Johns.....	The Texas Co., Jacksonville.
617	Gasoline	58.7	54	34	68	93	97	218	E. M. Johns.....	Gulf Refining Co., Fernandina.

618	Gasoline	58.7	55	31	68	93	97	218	E. M. Johns.....	The Texas Co., Fernandina.
619	Gasoline	58.7	55	31	68	93	97	218	E. M. Johns.....	The Texas Co., Fernandina.
620	Gasoline	58.6	51	25	60	92	97	222	E. M. Johns.....	Standard Oil Co., Fernandina.
621	Gasoline	58.6	52	29	62	92	97	216	W. H. Mapoles..	Standard Oil Co., Pensacola.
622	Gasoline	58.6	51	28	61	91	96	224	W. H. Mapoles..	Standard Oil Co., Pensacola.
623	Gasoline	58.3	52	30	65	92	97	215	W. H. Mapoles..	The Texas Co., Pensacola.
624	Gasoline	59.3	52	32	66	93	97	216	W. H. Mapoles..	Gulf Refining Co., Pensacola.
625	Gasoline	59.3	52	31	66	92	97	221	W. H. Mapoles..	Gulf Refining Co., Pensacola.
626	Gasoline	59.3	52	32	68	93	97	215	W. H. Mapoles..	Gulf Refining Co., Pensacola.
627	Gasoline	58.3	49	27	57	90	97	225	E. M. Johns.....	Standard Oil Co., Gainesville.
628	Gasoline	58.3	49	27	57	90	97	225	E. M. Johns.....	Standard Oil Co., Gainesville.
629	Gasoline	57.8	50	25	57.5	90	96.5	223	E. M. Johns.....	Standard Oil Co., Gainesville.
630	Gasoline	58.2	54	28	66	92	96.5	215	E. M. Johns.....	The Texas Co., Gainesville.
631	Gasoline	60.0	41	44	74	94	97	212	E. M. Johns.....	Gulf Refining Co., Gainesville.
632	Gasoline	60.1	41	44	74	93	97	214	E. M. Johns.....	Gulf Refining Co., Gainesville.
633	Gasoline	59.2	44	29	60.5	90.5	96.5	224	G. B. Hills......	Standard Oil Co., Port Tampa.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
634	Gasoline	59.0	46	29	60.5	90.5	97	222	G. B. Hills......	Standard Oil Co., Port Tampa.
635	Gasoline	59.2	46	29	60.5	90	96.5	225	G. B. Hills......	Standard Oil Co., Port Tampa.
636	Gasoline	59.4	44	30	60	90	97	223	G. B. Hills......	Standard Oil Co., Port Tampa.
637	Gasoline	59.0	42	29	58	90	96.5	223	G. B. Hills......	Standard Oil Co., Port Tampa.
638	Gasoline	59.1	44	29	59	90.5	97	223	G. B. Hills......	Standard Oil Co., Port Tampa.
639	Gasoline	58.5	48	27	60	90	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
640	Gasoline	58.8	46	27	60	90	97	225	W. H. Mapoles..	Standard Oil Co., Milton.
641	Gasoline	58.1	54	25	60	92	97	215	G. B. Hills......	Standard Oil Co., Tampa.
642	Gasoline	58.4	53	25	60	92	96	218	G. B. Hills......	Standard Oil Co., Tampa.

643	Gasoline	58.1	57	25	60	92	96.5	216	G. B. Hills......	Standard Oil Co., Tampa.
644	Gasoline	57.8	53	24	59	92	97	220	G. B. Hills......	Standard Oil Co., Tampa.
645	Gasoline	58.2	50	27	62	92.5	97	216	G. B. Hills......	Standard Oil Co., Tampa.
646	Gasoline	58.1	55	27	61	92	96.5	217	G. B. Hills......	Standard Oil Co., Tampa.
647	Gasoline	57.6	53	24	57	91	96.5	222	E. M. Johns.....	Standard Oil Co., Jacksonville.
648	Gasoline	61.3	50	43	77	94	97	208	E. M. Johns.....	Gulf Refining Co., Jacksonville.
649	Gasoline	61.3	50	43	77	94	97	209	E. M. Johns.....	Gulf Refining Co., Jacksonville.
650	Gasoline	57.9	51	27	60	90.5	97	222	E. M. Johns.....	Standard Oil Co., Jacksonville.
651	Gasoline	58.0	59	28	62	92	96	222	E. M. Johns.....	The Texas Co., Jacksonville.
652	Gasoline	57.7	54	24	57	90	96.5	223	E. M. Johns.....	Standard Oil Co., Jacksonville.
653	Gasoline	58.5	52	28	59	90	96	223	W. H. Mapoles..	Standard Oil Co., Crestview.
654	Gasoline	58.2	50	27	60	91	96.5	221	W. H. Mapoles..	Standard Oil Co., Crestview.
655	Gasoline	58.5	52	29	61	90.5	97	222	W. H. Mapoles..	Standard Oil Co., Crestview.
656	Gasoline	58.2	51	27.5	60	90	96	222	W. H. Mapoles..	Standard Oil Co., Holt.
657	Gasoline	58.2	51	28	60	90.5	97	222	W. H. Mapoles..	Standard Oil Co., Holt.
658	Gasoline	58.2	52	30.5	66.5	93	97	213	W. H. Mapoles..	The Texas Co., Crestview.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
659	Gasoline	57.8	50	25	58	90	96.5	224	E. M. Johns.....	Standard Oil Co., St. Augustine.
660	Gasoline	57.8	51	24	56	90	96	225	E. M. Johns.....	Standard Oil Co., St. Augustine.
661	Gasoline	57.8	52	25	57	90	97	224	E. M. Johns.....	Standard Oil Co., St. Augustine.
662	Gasoline	60.1	47	40	72.5	93.5	96.5	212	E. M. Johns.....	Gulf Refining Co., St. Augustine.
663	Gasoline	60.2	48	40	71	92.5	97	214	E. M. Johns.....	Gulf Refining Co., St. Augustine.
664	Gasoline	57.8	51	24	57	90	96.5	224	E. M. Johns.....	Standard Oil Co., Starke.
665	Gasoline	58.6	50	27	59	90	97	225	W. H. Mapoles..	Standard Oil Co., Mossyhead.
666	Gasoline	59.0	47	27	58	90	97	223	W. H. Mapoles..	Standard Oil Co., DeFuniak.
667	Gasoline	59.0	49	27	58	90	96	225	W. H. Mapoles..	Standard Oil Co., DeFuniak.

668	Gasoline	59.0	51	27	58	90	96	224	W. H. Mapoles..	Standard Oil Co., DeFuniak.
669	Gasoline	59.0	48	28	59	90	96.5	225	W. H. Mapoles..	Standard Oil Co., DeFuniak.
670	Gasoline	58.5	52	27	60	90	96.5	223	W. H. Mapoles..	Standard Oil Co., Deerland.
671	Gasoline	58.5	51	25	61	92	97	216	G. B. Hills......	Standard Oil Co., St. Petersburg.
672	Gasoline	53.5	67	17	48	78	97	Above 270	G. B. Hills......	Standard Oil Co., St. Petersburg.
673	Gasoline	59.3	51	35	68	93	96	216	G. B. Hills......	Gulf Refining Co., St. Petersburg.
674	Gasoline	59.8	47	37	70	93	96	212	G. B. Hills......	Gulf Refining Co., St. Petersburg.
675	Gasoline	59.8	52	24	59	92	97	218	G. B. Hills......	Standard Oil Co., St. Petersburg.
676	Gasoline	58.5	49	25	60	93	97	215	G. B. Hills......	Standard Oil Co., St. Petersburg.
677	Gasoline	59.6	45	40	70	93	96	212	E. M. Johns.....	Gulf Refining Co., Jacksonville.
678	Gasoline	59.6	44	40	70	93	96	213	E. M. Johns.....	Gulf Refining Co., Jacksonville.
679	Gasoline	59.6	44	41	71	94	96	212	E. M. Johns.....	Gulf Refining Co., Jacksonville.
680	Gasoline	59.6	45	40	71	94	96	212	E. M. Johns.....	Gulf Refining Co., Jacksonville.
681	Gasoline	59.6	45	42	72	94	96.5	211	E. M. Johns.....	Gulf Refining Co., Jacksonville.
682	Gasoline	59.6	45	40	71	94	96	212	E. M. Johns.....	Gulf Refining Co., Jacksonville.
683	Gasoline	57.5	52	24	55.5	90	97	224	E. M. Johns.....	Standard Oil Co., Palatka.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
684	Gasoline	57.5	52	24	55.5	90	97	224	E. M. Johns.....	Standard Oil Co., Palatka.
685	Gasoline	58.2	56	30	67	92	96	222	E. M. Johns.....	The Texas Co., Palatka.
686	Gasoline	58.2	54	31	68	93	97	219	E. M. Johns.....	The Texas Co., Palatka.
687	Gasoline	57.7	52	24	56	90	97	225	E. M. Johns.....	Standard Oil Co., Palatka.
688	Gasoline	59.8	48	38	71	93	96	215	E. M. Johns.....	Gulf Refining Co., Palatka.
689	Gasoline	58.0	55	28	64	92	97	218	W. H. Mapoles..	Gulf Refining Co., Molino.
690	Gasoline	59.3	54	31	66	92	97	216	W. H. Mapoles..	Gulf Refining Co., Molino.
691	Gasoline	57.5	54	29	66	93	97	214	W. H. Mapoles..	Gulf Refining Co., McDavid.
692	Gasoline	58.9	57	27	63	91.5	96.5	219	W. H. Mapoles..	Gulf Refining Co., Bluff Springs.

693	Gasoline	57.3	57	22	60	91	96.5	223	W. H. Mapoles..	The Texas Co., Century.
694	Gasoline	57.4	54	23	59	91.5	97	223	W. H. Mapoles..	The Texas Co., Century.
695	Gasoline	58.4	48	25	61	92	97	219	G. B. Hills......	Standard Oil Co., Tampa.
696	Gasoline	58.0	48	42.5	74	94	96.5	203	G. B. Hills......	Gulf Refining Co., West Tampa.
697	Gasoline	58.0	52	25	59	91	97	223	G. B. Hills......	Standard Oil Co., Dunedin.
698	Gasoline	58.4	52	25	60	92	97	224	G. B. Hills......	Standard Oil Co., Largo.
699	Gasoline	58.2	54	24	62	91.5	97	219	G. B. Hills......	Standard Oil Co., Seminole.
700	Gasoline	58.0	53	25	60	91	97	223	G. B. Hills......	Standard Oil Co., Safety Harbor.
701	Gasoline	61.5	49	43	75	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
702	Gasoline	61.5	48	43.5	75.5	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
703	Gasoline	61.2	50	43	75	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
704	Gasoline	61.0	51	43	76	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
705	Gasoline	61.5	49	43	75	94	97	210	E. M. Johns.....	Gulf Refining Co., Jacksonville.
706	Gasoline	58.8	56	29	69	93	97	220	E. M. Johns.....	The Texas Co., Jacksonville.
707	Gasoline	58.3	52	24	60	92	97	219	G. B. Hills......	Standard Oil Co., Brandon.
708	Gasoline	58.8	53	33	70	94	97	212	G. B. Hills......	The Texas Co., Valrico.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	% Distillate Below 105 °C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point °C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
709	Gasoline	58.3	51	35	68	93.5	97	219	G. B. Hills......	Gulf Refining Co., Plant City.
710	Gasoline	58.8	51	26	61	93	97	216	G. B. Hills......	Standard Oil Co., Dade City.
711	Gasoline	58.3	49	24	60	92	97	219	G. B. Hills......	Standard Oil Co., Zephyrhills.
712	Gasoline	58.3	51	25	59	92	97	221	G. B. Hills......	Standard Oil Co., Zephyrhills.
713	Gasoline	59.0	48	44	73	94	97	217	G. B. Hills......	Gulf Refining Co., Port Tampa.
714	Gasoline	58.7	47	43	72	93	97	218	G. B. Hills......	Gulf Refining Co., Port Tampa.
715	Gasoline	58.7	47	45	74	93	96.5	215	G. B. Hills......	Gulf Refining Co., Port Tampa.
716	Gasoline	58.7	47	48	75	94	96.5	213	G. B. Hills......	Gulf Refining Co., Port Tampa.
717	Gasoline	59.0	45	45	74	93	97	216	G. B. Hills......	Gulf Refining Co., Port Tampa.

718	Gasoline	59.2	45	45	74	93	96.5	215	G. B. Hills......	Gulf Refining Co., Port Tampa.
719	Gasoline	58.9	49	39	70	92.5	96.5	219	E. M. Johns.....	Gulf Refining Co., Hastings.
720	Gasoline	58.0	54	24	56	89.5	96.5	223	E. M. Johns.....	Standard Oil Co., Hastings.
721	Gasoline	57.9	53	25	56.5	89.5	96.5	224	E. M. Johns.....	Standard Oil Co., Hastings.
722	Gasoline	57.9	52	25	57	89.5	97	224	E. M. Johns.....	Standard Oil Co., Hastings.
723	Gasoline	59.3	48	41	71.5	93.5	96.5	213	E. M. Johns.....	Gulf Refining Co., Hastings.
724	Gasoline	57.5	54	23	55	88.5	97	225	E. M. Johns.....	Standard Oil Co., Bunnell.
725	Gasoline	58.0	52	24	55.5	89	97	225	E. M. Johns.....	Standard Oil Co., Bunnell.
726	Gasoline	58.0	52	24	56	89	97	223	E. M. Johns.....	Standard Oil Co., Bunnell.
727	Gasoline	57.5	54	24	55	89.5	97	223	E. M. Johns.....	Standard Oil Co., Bunnell.
728	Gasoline	57.5	54	24	56	89	97	223	E. M. Johns.....	Standard Oil Co., Bunnell.
729	Gasoline	57.8	51	26	59	90	97	223	E. M. Johns.....	Standard Oil Co., Starke.
730	Gasoline	58.0	51	27	59	90	97	223	E. M. Johns.....	Standard Oil Co., Starke.
731	Gasoline	59.4	51	36	69	93	96.5	215	G. B. Hills......	Gulf Refining Co., Lakeland.
732	Gasoline	59.1	56	32	69	93	96	214	G. B. Hills......	The Texas Co., Lakeland.
733	Gasoline	58.8	54	25	62	92	97	219	G. B. Hills......	Standard Oil Co., Lakeland.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
734	Gasoline	58.8	56	25.5	61.5	92	97	219	G. B. Hills......	Standard Oil Co., Lakeland.
735	Gasoline	58.8	55	26	62	92	97	216	G. B. Hills......	Standard Oil Co., Kissimmee.
736	Gasoline	58.7	51	48	73	92.5	96	215	G. B. Hills......	Gulf Refining Co., Kissimmee.
737	Gasoline	58.5	53	24.5	58	90.5	96	221	E. M. Johns.....	Standard Oil Co., Cedar Key.
738	Gasoline	59.6	50	36	68.5	93	96.5	216	E. M. Johns.....	Gulf Refining Co., Cedar Key.
739	Gasoline	58.8	53	32.5	67	93	97	217	E. M. Johns.....	Gulf Refining Co., Cedar Key.
740	Gasoline	59.4	51	36	69	93	97	215	E. M. Johns.....	Gulf Refining Co., Cedar Key.
741	Gasoline	58.5	53	25	59	91	97	221	E. M. Johns.....	Standard Oil Co., Cedar Key.
742	Gasoline	58.5	53	25	59	91	97	222	E. M. Johns.....	Standard Oil Co., Cedar Key.

743	Gasoline	58.8	48	41	69	91.5	96	220	E. M. Johns.....	Gulf Refining Co., Jacksonville.
744	Gasoline	58.8	46	42	70.5	92	96	223	E. M. Johns.....	Gulf Refining Co., Jacksonville.
745	Gasoline	58.0	49	25	57	89	97	224	E. M. Johns.....	Standard Oil Co., Hastings.
746	Gasoline	58.0	48	25	56	89	97	224	E. M. Johns.....	Standard Oil Co., Hastings.
747	Gasoline	57.7	53	24	57	89.5	97	223	E. M. Johns.....	Standard Oil Co., Hastings.
748	Gasoline	57.7	46	31	60	89	96	220	E. M. Johns.....	Standard Oil Co., Hastings.
749	Gasoline	57.8	51	24.5	58	91	97	223	W. S. McLin....	Standard Oil Co., Madison.
750	Gasoline	57.8	54	25	58	90.5	97	223	W. S. McLin....	Standard Oil Co., Ebb.
751	Gasoline	59.0	48	42	72	93	97	217	W. S. McLin....	Gulf Refining Co., Perry.
752	Gasoline	57.6	49	25	58	90	97	225	W. S. McLin....	Standard Oil Co., Perry.
753	Gasoline	57.9	51	25	57	90	97	223	W. S. McLin....	Standard Oil Co., Lake City.
754	Gasoline	59.1	49	40	70	92	96	216	W. S. McLin....	Gulf Refining Co., Lake City.
755	Gasoline	58.0	50	26	57	90	97	224	E. M. Johns.....	Standard Oil Co., Williston.
756	Gasoline	58.0	51	26	58	90	97	224	E. M. Johns.....	Standard Oil Co., Williston.
757	Gasoline	57.8	52	26	58	90.5	97	222	E. M. Johns.....	Standard Oil Co., Williston.
758	Gasoline	57.8	52	23	57	90	97	223	E. M. Johns.....	Standard Oil Co., Williston.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
759	Gasoline	59.5	51	37	71.5	93.5	97	219	E. M. Johns.....	The Texas Co., Archer.
760	Gasoline	59.5	53	37	71.5	93.5	97	219	E. M. Johns.....	The Texas Co., Archer.
761	Gasoline	57.7	53	28	59	**89**	97	**229**	G. B. Hills......	Gulf Refining Co., Miami Beach.
762	Gasoline	59.4	50	36	65.5	91	97	225	G. B. Hills......	Gulf Refining Co., Miami Beach.
763	Gasoline	59.2	50	37	67	92	97	222	G. B. Hills......	Gulf Refining Co., Miami Beach.
764	Gasoline	57.8	55	26	57	**88**	97	**230**	G. B. Hills......	Gulf Refining Co., Miami Beach.
765	Gasoline	59.6	46	39	70	93	97	221	G. B. Hills......	Gulf Refining Co., Miami Beach.
766	Gasoline	59.2	48	35	66	91	97	221	G. B. Hills......	Gulf Refining Co., Miami Beach.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. OFFICIAL KEROSENE ANALYSES, 1920. E. T. CASLER, Asst. Chemist.

Samples Taken by State Inspectors Under Act Approved June 4, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
154	Kerosene..	118	1.6	44.5	W. H. Mapoles	Standard Oil Co., Crawfordville.
155	Kerosene..	118	1.4	43.9	G. B. Hills....	Standard Oil Co., Boca Grande.
156	Kerosene..	104	2.4	44.5	G. B. Hills....	Gulf Refining Co., Boca Grande.
157	Kerosene..	113	1.2	44.5	E. M. Johns...	Standard Oil Co., Baldwin.
158	Kerosene..	120	1.4	44.3	E. M. Johns...	Standard Oil Co., Macclenny.
159	Kerosene..	**98**	2.8	44.0	G. B. Hills....	Gulf Refining Co., Plant City.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
160	Kerosene..	118	1.6	43.9	G. B. Hills....	Standard Oil Co., Plant City.
161	Kerosene..	118	1.4	44.3	E. M. Johns...	Standard Oil Co., Titusville.
162	Kerosene..	119	2.8	43.3	E. M. Johns...	Gulf Refining Co., Titusville.
163	Kerosene..	110	1.2	43.6	G. B. Hills....	Gulf Refining Co., Port Tampa.
164	Kerosene..	118	1.6	43.6	G. B. Hills....	Standard Oil Co., Port Tampa.
165	Kerosene..	112	1.6	44.4	E. M. Johns...	Standard Oil Co., New Smyrna.
166	Kerosene..	130	1.6	41.2	E. M. Johns...	The Texas Co., De Land.
167	Kerosene..	113	1.6	44.7	E. M. Johns...	Standard Oil Co., Jacksonville.
168	Kerosene..	120	2.6	43.3	E. M. Johns...	Gulf Refining Co., Jacksonville.

169	Kerosene..	116	1.4	43.6	G. B. Hills....	Standard Oil Co., Bartow.
170	Kerosene..	133	2.2	41.2	G. B. Hills....	The Texas Co., Bartow.
171	Kerosene..	120	1.6	43.4	W. H. Mapoles	Gulf Refining Co., Lake City.
172	Kerosene..	115	1.4	44.3	W. H. Mapoles	Standard Oil Co., Lake City.
173	Kerosene..	116	1.4	43.8	G. B. Hills....	Standard Oil Co., Wauchula.
174	Kerosene..	116	1.4	43.8	G. B. Hills....	Standard Oil Co., Ft. Meade.
175	Kerosene..	105	2.8	43.6	W. H. Mapoles	Gulf Refining Co., Perry.
176	Kerosene..	115	1.2	44.3	W. H. Mapoles	Standard Oil Co., Perry.
177	Kerosene..	115	1.3	44.2	E. M. Johns...	Standard Oil Co., Alachua.
178	Kerosene..	118	1.4	44.4	E. M. Johns...	Standard Oil Co, Newberry.
179	Kerosene..	122	1.6	43.4	W. H. Mapoles	Gulf Refining Co., Live Oak.
180	Kerosene..	140	2.0	40.9	W. H. Mapoles	The Texas Co., Live Oak.
181	Kerosene..	134	2.0	41.0	E. M. Johns...	The Texas Co., Palatka.
182	Kerosene..	118	1.4	43.7	G. B. Hills....	Standard Oil Co., Palmetto.
183	Kerosene..	109	1.4	43.6	G. B. Hills....	Gulf Refining Co., Bradentown.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	"Tag" Closed Tester Not Below 100	6	.....		
184	Kerosene..	116	1.4	44.5	E. M. Johns...	Standard Oil Co., Starke.
185	Kerosene..	116	1.4	44.5	E. M. Johns...	Standard Oil Co., Starke.
186	Kerosene..	119	1.4	43.8	G. B. Hills....	Standard Oil Co., Ft. Myers.
187	Kerosene..	118	1.4	43.8	G. B. Hills....	Standard Oil Co., Ft. Myers.
188	Kerosene..	115	1.2	44.4	E. M. Johns...	Standard Oil Co., Green Cove Springs.
189	Kerosene..	116	1.6	43.6	E. M. Johns...	Standard Oil Co., Jacksonville.
190	Kerosene..	104	1.2	44.6	W. H. Mapoles	Standard Oil Co., Milton.
191	Kerosene..	120	1.2	44.6	W. H. Mapoles	Standard Oil Co., Milton.
192	Kerosene..	119	1.2	44.1	G. B. Hills....	Standard Oil Co., Ft. Meade.

193	Kerosene..	107	1.2	44.2	G. B. Hills....	Gulf Refining Co., Ft. Meade
194	Kerosene..	120	1.4	43.7	G. B. Hills....	Standard Oil Co., Tampa.
195	Kerosene..	111	1.6	43.5	G. B. Hills....	Gulf Refining Co., Tampa.
196	Kerosene..	118	1.4	44.0	G. B. Hills....	Standard Oil Co., Seffner.
197	Kerosene..	136	1.6	41.2	G. B. Hills....	The Texas Co., Seffner.
198	Kerosene..	120	3.6	43.5	W. H. Mapoles	Gulf Refining Co., Munson.
199	Kerosene..	116	1.2	43.7	W. H. Mapoles	Standard Oil Co., Bagdad.
200	Kerosene..	131	2.0	41.1	E. M. Johns...	The Texas Co., Ocala.
201	Kerosene..	118	1.6	43.1	E. M. Johns...	Standard Oil Co., Ocala.
202	Kerosene..	120	1.2	44.5	W. H. Mapoles	Standard Oil Co., Mayo.
203	Kerosene..	118	2.0	43.2	E. M. Johns...	Gulf Refining Co., Jacksonville.
204	Kerosene..	114	1.6	44.1	E. M. Johns...	Standard Oil Co., Jacksonville.
205	Kerosene..	118	2.1	43.6	W. H. Mapoles	Standard Oil Co., Pensacola.
206	Kerosene..	118	1.8	43.6	W. H. Mapoles	Standard Oil Co., Pensacola.
207	Kerosene..	126	1.2	41.3	G. B. Hills....	The Texas Co., Tampa.
208	Kerosene..	128	1.2	41.4	G. B. Hills....	The Texas Co., Tampa.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
209	Kerosene..	112	2.2	43.6	G. B. Hills....	Gulf Refining Co., Tampa.
210	Kerosene..	110	2.2	43.6	G. B. Hills....	Gulf Refining Co., Tampa.
211	Kerosene..	120	2.0	43.1	W. H. Mapoles	Gulf Refining Co., Pensacola.
212	Kerosene..	134	2.0	41.1	W. H. Mapoles	The Texas Co., Pensacola.
213	Kerosene..	119	2.4	43.4	E. M. Johns...	Gulf Refining Co., Fernandina.
214	Kerosene..	130	2.0	41.3	E. M. Johns...	The Texas Co., Fernandina.
215	Kerosene..	120	2.2	43.4	W. H. Mapoles	Gulf Refining Co., Pensacola.
216	Kerosene..	120	2.2	43.4	W. H. Mapoles	Gulf Refining Co., Pensacola.
217	Kerosene..	114	1.4	44.8	E. M. Johns...	Standard Oil Co., Gainesville.

218	Kerosene..	134	2.2	41.2	E. M. Johns...	The Texas Co., Gainesville.
219	Kerosene..	108	2.1	43.6	G. B. Hills....	Standard Oil Co., Port Tampa.
220	Kerosene..	116	2.6	43.5	G. B. Hills....	Standard Oil Co., Port Tampa.
221	Kerosene..	108	2.2	43.7	G. B. Hills....	Gulf Refining Co., Tampa.
222	Kerosene..	120	2.0	43.8	G. B. Hills....	Standard Oil Co., Tampa.
223	Kerosene..	128	2.4	43.0	E. M. Johns...	Gulf Refining Co., Jacksonville.
224	Kerosene..	119	1.3	44.3	E. M. Johns...	Standard Oil Co., Jacksonville.
225	Kerosene..	120	2.1	43.5	W. H. Mapoles	Standard Oil Co., Crestview.
226	Kerosene..	116	2.2	43.7	W. H. Mapoles	Standard Oil Co., Holt.
227	Kerosene..	118	1.4	44.3	E. M. Johns...	Standard Oil Co., St. Augustine.
228	Kerosene..	121	2.3	43.3	E. M. Johns...	Gulf Refining Co., St. Augustine.
229	Kerosene..	121	1.6	44.0	W. H. Mapoles	Standard Oil Co., De Funiak.
230	Kerosene..	118	1.5	44.0	W. H. Mapoles	Standar dOil Co., Deerland.
231	Kerosene..	115	1.8	43.8	G. B. Hills....	Standard Oil Co., St. Petersburg.
232	Kerosene..	132	2.2	41.2	G. B. Hills....	Standard Oil Co., St. Petersburg.
233	Kerosene..	122	2.4	43.1	E. M. Johns...	Gulf Refining Co., Jacksonville.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
234	Kerosene..	121	2.3	43.1	E. M. Johns...	Gulf Refining Co., Jacksonville.
235	Kerosene..	115	1.4	44.3	E. M. Johns...	Standard Oil Co., Palatka.
236	Kerosene..	131	2.2	41.0	E. M. Johns...	The Texas Co., Palatka.
237	Kerosene..	118	2.4	43.2	W. H. Mapoles	Gulf Refining Co., McDavid.
238	Kerosene..	124	2.4	43.3	W. H. Mapoles	Gulf Refining Co., Bluff Springs.
239	Kerosene..	110	2.4	43.6	G. B. Hills....	Gulf Refining Co., St. Petersburg.
240	Kerosene..	124	2.3	43.5	G. B. Hills....	Standard Oil Co., Tampa.
241	Kerosene..	120	2.4	43.2	E. M. Johns...	Gulf Refining Co., Jacksonville.
242	Kerosene..	120	2.4	43.2	E. M. Johns...	Gulf Refining Co., Jacksonville.

243	Kerosene..	115	2.0	43.9	G. B. Hills....	Standard Oil Co., Dade City.
244	Kerosene..	118	2.0	43.9	G. B. Hills....	Standard Oil Co., Zephyrhills.
245	Kerosene..	116	2.1	43.8	G. B. Hills....	Standard Oil Co., Tampa.
246	Kerosene..	111	2.2	43.8	G. B. Hills....	Gulf Refining Co., Tampa.
247	Kerosene..	117	1.4	44.2	E. M. Johns...	Standard Oil Co., Hastings.
248	Kerosene..	115	1.4	44.2	E. M. Johns...	Standard Oil Co., Hastings.
249	Kerosene..	112	1.2	44.4	E. M. Johns...	Standard Oil Co., Bunnell.
250	Kerosene..	113	1.2	44.4	E. M. Johns...	Standard Oil Co., Bunnell.
251	Kerosene..	132	2.6	41.1	G. B. Hills....	The Texas Co., Lakeland.
252	Kerosene..	116	2.2	43.7	G. B. Hills....	Standard Oil Co., Lakeland.
253	Kerosene..	119	1.4	44.2	E. M. Johns...	Standard Oil Co., Cedar Key.
254	Kerosene..	120	2.0	43.3	E. M. Johns...	Gulf Refining Co., Cedar Key.
255	Kerosene..	122	2.1	43.3	E. M. Johns...	Gulf Refining Co., Jacksonville.
256	Kerosene..	117	1.4	44.3	E. M. Johns...	Standard Oil Co., Hastings.
257	Kerosene..	120	2.3	43.2	W. S. McLin..	Gulf Refining Co., Perry.
258	Kerosene..	116	1.7	43.7	W. S. McLin..	Standard Oil Co., Perry.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
259	Kerosene..	112	1.4	44.4	E. M. Johns...	Standard Oil Co., Williston.
260	Kerosene..	138	2.0	41.2	E. M. Johns...	The Texas Co., Archer.
261	Kerosene..	89	1.6	44.0	G. B. Hills....	Gulf Refining Co., Miami Beach.
262	Kerosene..	112	2.0	43.7	G. B. Hills....	Gulf Refining Co., Miami Beach.

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COMMISSIONER OF AGRICULTURE

TALLAHASSEE FLA.

Part 1—Biographical Sketch of T. J. Brooks, Chief Clerk Department of Agriculture. The Agricultural Future of Florida. Federal Farm Loan Banks. Increase in Wealth of Various Counties. Florida Climate Compared With Pleasure Resorts. Productivity of Florida Soil Illustrated by Statistics. Staff of Extension Division of University of Florida. County Home Demonstration Agents. Directory of County Agents. Legal Fence for Florida. Florida State Fair and Exposition. Average Prices Received by United States Producers. Mileage by Counties of Improved Roads.

Part 2—Crop Report.

Part 3—Florida Oysters, Regulations for Packing and Shipping. Saccharin, a Prohiibted Drug, Substituted for Sugar, Commercial Values of Fertilizers and Feeds. Analyses of Fertilizers, Feeds and Gasolines.

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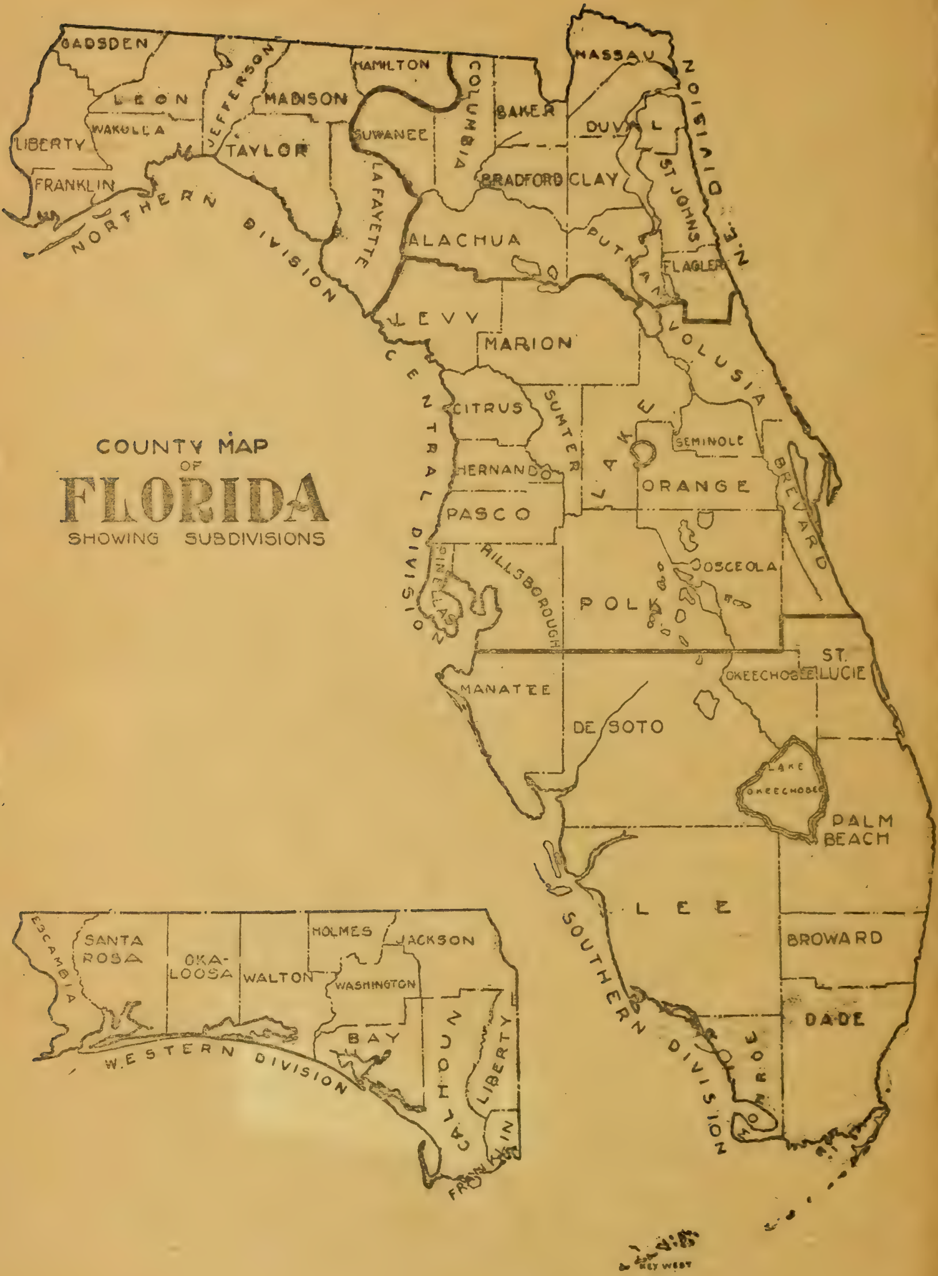
COUNTY MAP
OF
FLORIDA
SHOWING SUBDIVISIONS

PART I

Biographical Sketch of T. J. Brooks, Chief Clerk, Department of Agriculture.

The Agricultural Future of Florida.

Federal Farm Loan Banks.

Increase in Wealth of Various Counties.

Florida Climate Compared with Pleasure Resorts.

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Staff of Extension Division of University of Florida.

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BIOGRAPHICAL SKETCH OF T. J. BROOKS, CHIEF CLERK DEPARTMENT OF AGRICULTURE

Mr. T. J. Brooks takes the place of Chief Clerk of the Department of Agriculture, which was filled for more than thirty years by the late Henry S. Elliot.

Mr. Brooks was reared on the farm in Tennessee, where he lived until after his majority. After completing High School he received his literary education at the Southern Normal University. He returned to the farm, teaching school at intervals, until he became connected with the organization of the farmers. He was connected with the Farmers' Union, both State and national, for years; represented farm organizations before numerous committees of congress on legislative matters vitally affecting agriculture; formulated the bill which resulted in the establishing of the National Bureau of Markets, and made the first address on the subject ever made before a Committee of Congress.

He was a member of the faculty of the Mississippi Agricultural and Mechanical College for six years as head of the Department of Markets and Rural Economics.

He was appointed by President Wilson as biennial delegate to the International Institute of Agriculture at Rome in 1913, and served with Dr. A. C. True, of Washington, D. C., Director of States Relation Service, and Professor Pugsley, of the University of Nebraska, the other delegates. The same year he traveled through ten countries of Europe studying agricultural problems, as a member of the American Commission.

He has been general manager of a Florida corporation for some time with headquarters in Jacksonville. He is the author of a text book, "Markets and Rural Economics," and the "March of Intellect."

THE AGRICULTURAL FUTURE OF FLORIDA

By T. J. Brooks,
Chief Clerk Department of Agriculture

The future agricultural possibilities of Florida are great, and as farming interests advance and prosper all other interests will flourish in proportion.

Compared with Some European Nations

A better conception of the magnitude of the natural resources of our State can be obtained from a comparison with some of the nations of Europe. The figures are in round numbers.

Country.	Area Square Miles.	Population.	Pop- Per Sq. Mile.
Belgium	11,400	7,500,000	653
Holland	12,500	6,200,000	493
Denmark	15,500	2,800,000	178
Switzerland	16,000	4,000,000	240
Florida	54,600	1,200,000	22

From the above we have approximately the following: With four times the area of Belgium, Florida has one-sixth of the population.

With four times the area of Holland, Florida has one-fifth of the population.

With three and a half times the area of Denmark, it has one-half of the population.

With three and a fourth times the area of Switzerland, it has one-fourth the population.

It has far more lands redeemable by drainage than Holland has reclaimed by her dykes and canals. It has millions of acres similar to the great plain that extends from Holland through the heart of Germany, and far into Russia—supporting its teeming millions of people.

It has no barren waste of rocks and mountains as has our Western States, or Switzerland, Norway, Sweden, Scotland, Japan, and other densely populated countries of the world.

SIZE AND PRODUCTION

Florida has 35,111,040 acres; in actual cultivation 1,636,983; leaving not in actual cultivation 33,474,057 acres.

Suppose 20,000,000 acres were added to the cultivated area—which will yet be done—and produced crops to the annual net value of $50.00 per acre, it would add $1,000,000,000 to the annual crop value of the State.

The total assessed value of real property for 1918 was $233,756,566, and for personal property $69,815,509, making a total of $303,566,075. According to the State Bureau of Markets the total crop value for 1919 was $131,000,000.

During the past three and one-half decades, the population of Florida has increased 400 per cent. The Fifteenth Biennial Report recently issued gives the number of pieces of mail matter sent in reply to inquiries as over 254,000.

The Federal government has maintained in Florida experiment stations to test forty thousand plants from foreign countries. There are thirty-three county demonstration agents at work in the State, and the same number of home demonstration agents.

Fifteen thousand men are engaged in the fish industries of the State.

Florida shipped 66,792 carloads of fruit and vegetables last year, consisting of over two hundred different farm, garden and grove products.

Livestock, dairying and poultry products amounted to $26,000,000.

The number of native and introduced trees of Florida is two hundred and eighty, and the number of different kinds of birds of the State is three hundred and fifty. and of fish 650. The flora of Florida is so extensive that no one as yet has completed a comprehensive work on it.

At the International Exposition held in Kansas City with forty-five States competing, Moore Haven, Fla., took the sweepstakes prize, money and silver cup for the greatest and finest display of agricultural and horticultural productions.

A Florida Poland China sow won grand championship at the International Livestock Show in Chicago in 1919, Marion County getting it.

The counties of Florida spent in three years, ending September, 1919, $17,085,432.86 on roads and bridges.

The State has splendid hard-surface roads. The mileage will be doubled in a few years. Good roads bring in enough new investment to more than offset the cost of construction. This is especially true of counties just being developed.

Some people think of Florida as an orange orchard, a lake or an everglade. The greatest acreage planted to any one crop in the State is grain—corn. Practically the entire northwestern section is adapted to general farming, which includes corn, hay, peanuts, tobacco, velvet beans, cowpeas, kudzu, oats, rape, sugar cane, sorghum, pasture grasses, cotton, livestock and fruits. It is the northwest portion of the State that produces most of the feedstuffs. The muck lands of the State—which are not confined to the everglades—are splendid lands for corn, cane, vegetables, etc. They were once the bottoms of lakes and are very rich in plant food when brought under scientific cultivation as thousands of acres amply testify. The 17,000,000 bushels of corn produced in 1917 could be easily quadrupled by bringing under cultivation splendid grain lands by drainage in counties where corn is already grown.

The peanut is the second largest crop of the State. The production in 1918 being over five million bushels. The velvet bean has grown in favor, and the crop is about 2,000,000 bushels a year. Kudzu is coming in for a share in the leguminous vines, producing large yields of excellent forage. The beggar weed is a splendid leguminous plant that furnishes splendid grazing and hay. The present crop of sweet potatoes will exceed 4,000,000 bushels. Last year's crop of tobacco was 4,000,000 pounds. Peanuts 3,402,000 bushels.

Florida now has four grain elevators, located at Marianna, Jacksonville, Greenwood and Tallahassee, and one is projected at Moore Haven, near the Everglades. Some of these handle velvet beans, cowpeas, peanuts and cotton seed in the same manner as corn.

The value of exports passing through Jacksonville is more than $8,000,000, $1,000,000 of which was peanut meal and mixed feeds. The naval stores and lumber exported through Key West in 1919 amounted to $2,000,000 each. Pensacola, Apalachicola, Tampa and Ft. Myers are the larger ports for the west coast, furnishing ocean transportation to and from all great markets. Key West, Miami and Jacksonville on the south and east are ports where Florida products are interchanged with the ports of the world. Miami is growing like a magic city in some great gold-mining district. It has increased its population 400 per cent. in the last few years.

The Everglades are being drained where three million acres of muck which nature has been preparing in her laboratory during countless aeons of time a soil and humus, waiting the plow, the sunshine and showers to yield a harvest sufficient to support more people than are now in the State. The swamp regions of the State have sufficient elevation to drain and at less cost than the baked planes of the West can be irregated and when this is done who can measure the future agricultural possibilities of Florida? What has been done is only a faint indication of what will be done. All the things herein mentioned and more are prophesies of what is to come. With a bountiful supply of humous in peatlands, with almost a monopoly on phosphate, and unlimited lime rock, what is to hinder the making of the agricultural future of this land of sunshine, rain and two to four crops a year? The State has almost a monopoly of the finest fuller's earth of the world. This is needed in refining oils. Dehydration will help to utilize all the perishable fruits and vegetables that now waste for want of scientific curing and preserving.

Heralds these of a coming day when Florida's products will find their way to every port where the banner of civilization waves.

"You have seen the flushing of the skies at morn,
Foretaste of glories yet unborn,
Whose birth the angels sing the while—
That is her smile."

FEDERAL FARM LOAN BANKS

During three years the Federal Farm Loan Banks loaned $346,616,041 to 125,003 farmers, and twenty-eight Joint Stock Land Banks loaned $79,111,532 to 8,315 farmers. Thus 133,318 farmers were enabled to mobilize their credit and secure cheap money on long-time loans from March 27, 1917, to April 30, 1920. The rates were 5, 5½ and 6 per cent., running from five to thirty-five years, payable by the amortisation plan.

The Federal Land Banks had approved applications for loans on hand for $41,966,961 to 16,390 farmers when the operation of the system was halted by a suit instigated by the Farm Mortgage Breakers' Association of America against the constitutionality of certain features of the law. The contention being that Congress had no power to establish government banks and that the tax-exemption feature of the Farm Loan Bonds is unconstitutional.

The case was argued in Kansas City, Mo., last fall before the United States District Court and dismissed. An appeal was taken to the United States Supreme Court. It was argued there in January, 1920, and in April a new hearing was ordered. This cannot take place until this fall, and a decision is not likely before January, 1921.

The money which farmers borrow through this system is not government money but is secured by the sale of land-mortgage bonds in the open market. Pending the decision of the court there must inevitably be a doubt about the bonds being exempt from taxes, thus rendering the sale of bonds at the same rates secured before the filing of the suit impossible, and the sale was discontinued. Immediately interest rates were raised by private money lenders and bankers from 1 to 4 per cent. on farm loans.

Recognizing the need of capital at low rates to operate farming Congress passed a joint resolution and the President signed it on May 26, 1920, authorizing the Secretary of the Treasury to buy Federal Farm Loan bonds to provide funds for making loans approved by the banks up to March, 1920. This Act provided between twenty-five and thirty million dollars, which was hoped would tide over till the decision of the Supreme Court.

The outstanding bonds sold under this law constituted only 2 per cent. of the tax-free securities of the country. The others are State and municipal bonds and certain issues of government securities. Congress now has the power to tax all these bonds. Why single out Farm Loan bonds for taxation and leave over $15,000,000,000 of other securities untaxed?

The writer is familiar with the struggles that brought about the Federal Farm Loan law, as he was one of the American Commission which studied rural credits in Europe prior to the enactment of the law, and was also one of many who appeared before committees of Congress which had charge of the bills introduced on the subject. There is not only a need for long-time rural credits based on land but there is need for short-time rural credits based on personal property.

Large projects for land development financed by companies are bringing in many thousands of acres; but this will not take the place of the small farmer who operates on small capital and builds a home which constitutes the unit for a substantial and permanent rural civilization.

SAFE TO INVEST IN FLORIDA

Investment in Florida lands is not only safe but very profitable. We take the following figures from advance sheets of the Feleral census of 1920. Comparative figures on counties not included here could not be given because of changes in county lines or of recent organization, and reports have not come in on all the counties to date.

Increase in value of farm lands during the last ten years:

County.	Percentage of Increase.
Polk	616.3
Hernando	294
Pasco	243.8
Sumpter	153.9
Brevard	149.6
Levy	128
Lake	109.5
Marion	80.2

New counties, where development is in its infancy, offer wonderful opportunities for investors. Hundreds of thousands are being made by judicious buyers in various counties where citrus orchards are being planted. Buying up raw lands, clearing, plowing and setting to good trees and then selling to those who want young orchards, offers one of the most profitable and perfectly legitimate business projects of the time. Counties and cities that have sprung on the map as by magic are only weather-vanes pointing the way in other counties. They are the timekeepers of progress inviting the daring, industrious and progressive to rich fields of harvest. The most backward counties of today are only new eldorados inviting you to come and "grow up with the country."

FLORIDA CLIMATE COMPARED WITH THE PLEASURE RESORTS OF THE WORLD

Does the climate of Florida justify the claim that the State will support a dense population of thrifty and prosperous people? Yes.

Florida's isothormal zone is the equivalent of that of thriving and populous parts of the Southern Hemisphere. It is the equivalent of those countries where the great civilizations of the ancients flourished.

The following table illustrates what we mean. The figures represent a ten-year average for each season:

TABLE OF TEMPERATURES—AN AVERAGE OF TEN YEARS

Name.	Winter.	Spring.	Summer.	Fall.	Annual.
Pau, France	42	54	70	58	56
Pisa, Italy	44	57	73	62	59
Nice, France	48	55	71	62	60
Jacksonville, Fla.	56	69	81	70	69
Rome, Italy	49	58	74	62	60
Cairo, Egypt	54	70	80	72	70
Malaga, Spain ...	55	58	78	60	65
Algiers, Morocco.	55	66	77	62	66
Los Angeles, Cal.	56	59	69	66	62
San Diego, Cal...	56	61	65	65	61
Naples, Italy	58	58	70	64	61
St. Augustine, Fla..	58	68	79	69	68
Tampa, Fla.	61	71	81	73	72
Palm Beach, Fla..	67	73	81	77	75
Miami, Fla.	67	73	82	78	75

The foregoing figures on temperatures in foreign countries are from the climatic works of Dr. P. C. Remondine. Those for America from the Government Weather Bureau.

Approximately a million people visit Florida annually which shows what is thought of her climate for the colder months and our summer temperatures cause no sunstrokes as occur each summer season in the Northern States.

PRODUCTIVITY OF THE SOIL OF FLORIDA AND VARIOUS OTHER PARTS OF THE UNITED STATES, ILLUSTRATED BY STATISTICS

By Roland M. Harper,

Geographer, Florida State Geological Survey.

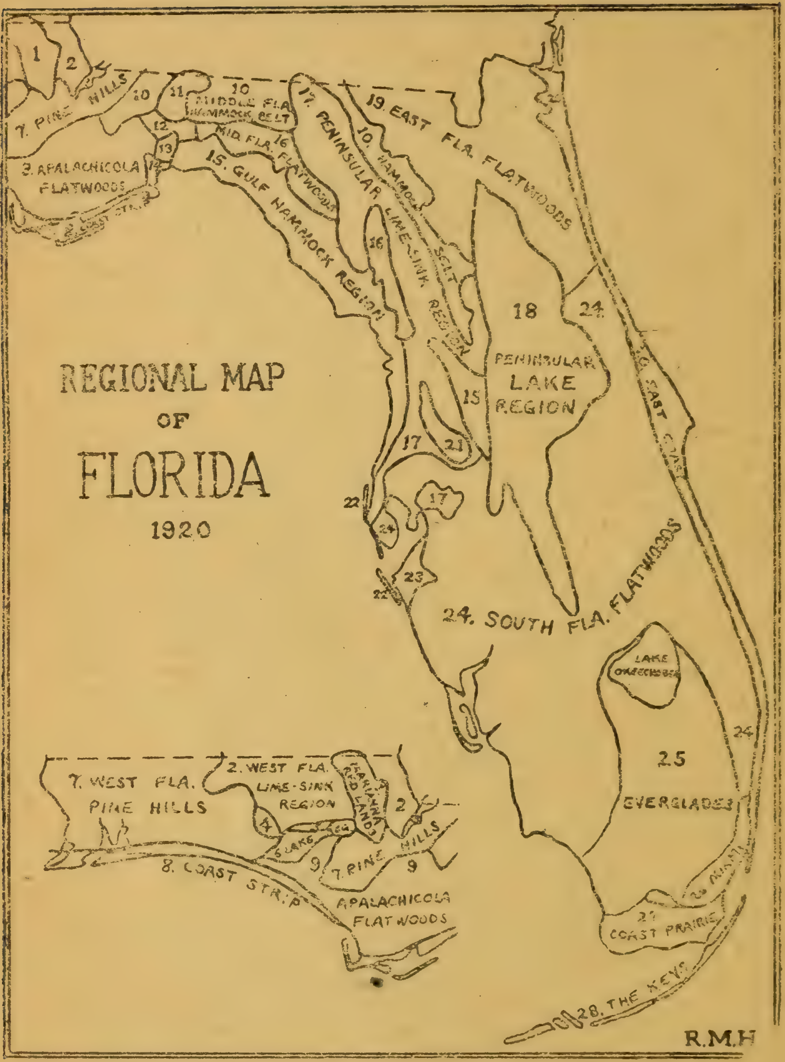
In modern times, especially since labor-saving machinery and commercial fertilizers came into use, and the adaptation of crops to soils has been worked out scientifically, soil fertility has had very little to do with agricultural prosperity. In practically every county in the United States there are now many successful farmers who would rather live where they are than anywhere else. In the long run the income and outgo from farming (or any other business) just about balance, so that in any region the difference between the receipts and expenses of the average successful farmer is just enough to pay him for his time, and the value he puts on that is determined largely by himself, or at least by the prevailing standards of his community.

If poor soil was any disgrace the Danes would have very little to brag about, for Denmark is a country with very sandy soils; but nevertheless agriculture is its leading industry, and its farming practices are a model in many respects for the rest of the world. The farmers there import large quantities of grain to feed to their animals, and export approximately equal values of butter and bacon (but not much milk, which contains considerably more mineral matter than butter does). In that way they can constantly improve the soil without buying any commercial fertilizer at all (though they find that it pays to buy a little for certain crops), for the grain imported is pretty rich in mineral matter, such as phosphates, while the butter and bacon contain very little.

It is useless to deny—or to get excited when any outsider points out—that the average soil of Florida is below the United States average in natural fertility, and perhaps below that of any other State; but as stated above, and as will presently be shown more plainly by means of statistics, that has very little to do with farm profits. In value of crops per acre Florida is above the average for the whole country, and is surpassed by only a few States, and those few are much more densely populated.

In the following pages the principal expenses and receipts of farming in various parts of Florida and in 24 other States, as computed from the returns of the U. S. census of 1910, are tabulated in detail. There are of course quite a number of minor expenses and sources of revenue that have never been returned by the census, but they balance each other to a considerable extent, and are usually much less important than those tabulated, anyway. There are also some limitations in the accuracy of the statistics, such as the fact that the amount of improved land is that for the census year, while the expenses and receipts are for the year preceding, and also that the census does not always make adequate allowance for the amount of crops, etc., consumed on the farms; but these ought to affect all regions about alike, and not materially affect the comparisons. It would also be desirable to have statistics less than ten years old, but the complete returns of this year's census, as far as agriculture is concerned, may not be available for several months yet, and the figures for 1910 will illustrate the general principles just as well.

For Florida the results are given for several different natural divisions separately, to illustrate the great diversity of our State, but for the other states (some of which are quite diversified also) only state averages are used. At the head of the first table similar statistics for the whole State of Florida are given, as far as available, for four different censuses, and in the second the whole United States is treated the same way. The states selected for illustration include all the New England states and all the southeastern states, and several of the more fertile in other parts of the country. Most of those omitted do not differ remarkably from some of those included, or have crop values any higher on the average than Florida's.



Map showing natural divisions of Florida as at present understood, including several so located with respect to existing county boundaries that they cannot very well be treated statistically. The names of those too small to be named on the map can be found in the accompanying text, or in the Sixth Annual Report of the Florida Geological Survey, where the same numbers are used for those in the northern part of the State.

Florida can be readily divided into twenty-five or thirty natural geographical regions (which is more than any other state has, with the possible exception of Texas, which is considerably larger), differing in soil, topography, vegetation, etc., and correspondingly in population and agriculture. All that were known at that time were described briefly by the writer in the Third Annual Report of the Florida Geological Survey, published at the beginning of 1911, and those in the northern half of the State more fully in the Sixth Annual Report, four years later. Some of them, however, are too small or narrow to get any satisfactory statistics for, and others cannot be treated very accurately in this connection, for the county is the unit in agricultural census returns, and Florida counties are still pretty large, averaging about 1,000 square mile each. (The Legislature will have two or three opportunities to make the counties fit natural regions better before the next State census). It should, therefore, be constantly borne in mind that the contrasts between different regions shown in the table would be still greater if the county boundaries coincided more closely with natural boundaries.

The regions treated statistically, and the counties selected to illustrate them, are as follows. (The numbers correspond with those on the map):

1. Marianna red lands.—Jackson.
2. West Florida lime-sink region.—Holmes.
7. West Florida pine hills.—Calhoun, Escambia, Santa Rosa, Walton.
9. Apalachicola flatwoods—Franklin, Liberty.
10. Middle Florida hammock belt.—Alachua, Columbia, Jefferson, Madison, Marion.
11. Tallahassee red hills.—Leon.
13. Wakulla hammock region.—Wakulla.
15. Gulf hammock region.—Sumter, Taylor.
17. Peninsular lime-sink region.—Citrus, Levy, Suwannee.
18. Peninsular lake region.—Lake, Orange.
19. East Florida flatwoods.—Baker, Bradford, Clay, Duval, Nassau, St. Johns.
20. East Coast strip.—Brevard, Palm Beach, St. Lucie.
21. Hernando hammock belt.—Hernando, Pasco.
23. West Coast hammocks.—Manatee.
24. South Florida flatwoods.—DeSoto, Lee, Osceola.
26. Miami limestone region.—Dade.
28. The Keys.—Monroe.

The counties not listed here are either those established since 1910 or those which are so nearly equally divided between two or more regions that statistics for such counties would not be typical of either. In some cases, however, most of the farming in a county is concentrated in a region that covers not more than half its area (for example, Jackson, Leon, Jefferson, Brevard, Hernando, Manatee), so that we can use the statistics with some confidence.

TABLE 1.

Statistics illustrating soil productivity in Florida at different times and in different regions. (All figures represent dollars and cents).

	Value of farm land per acre	Expenditures per acre improved land				Value per acre improved	
		Labor	Rent and board	Fertilizer	Feed	Crops	Animal products
Whole State, 1879-80	......	......	......	.08	......	7.85	
Whole State, 1889-90	......	......	......	.75	......	10.54	
Whole State, 1899-1900	7.06	.97	......	.50	......	10.70	
Whole State, 1909-10	17.84	2.78	.20	2.00	1.00	20.00	3.99
1. Marianna red lands	9.19	.71	.11	.83	.15	13.50	2.98
2. West Florida lime-sink region	8.62	.39	.10	1.30	.40	21.60	5.24
7. West Florida pine hills	9.21	.75	.15	1.79	1.01	21.10	5.95
9. Apalachicola flatwoods	3.80	1.23	.12	1.66	.85	18.70	6.11
10. Middle Florida hammock belt	9.99	1.42	.11	.60	.23	12.70	2.51
11. Tallahassee red hills	10.81	1.10	.12	.29	.15	8.65	1.83
13. Wakulla hammock country	3.56	.25	.08	.04	.06	6.37	1.52
15. Gulf hammock region	13.08	3.53	.17	1.84	.85	21.10	3.97
17. Peninsular lime-sink region	7.17	.71	.16	.32	.24	11.26	3.08
18. Peninsular lake region	41.80	10.20	.25	8.84	4.63	49.70	6.48
19. East Florida flatwoods	15.55	3.10	.40	1.98	1.71	25.80	7.28
20. East Coast strip	94.80	30.10	.57	27.90	6.51	137.00	5.03
21. Hernando hammock belt	19.65	2.75	.19	1.44	1.64	21.10	5.46
23. West Coast hammocks	76.86	18.45	.64	13.25	7.30	88.60	7.16
24 South Florida flatwoods	35.08	9.43	.65	7.98	5.23	50.60	8.90
26. Miami limestone region	69.38	23.50	.72	26.60	8.00	100.50	4.66
28. The Keys	55.41	5.22	1.94	.07	.09	34.40	1.08

It will be seen at once that high land values, large expenditures and valuable crop yields go together, irrespective of soil conditions. There is no one unit of measurement for soil fertility, but by almost any test that can be applied the soils of regions 1, 10 and 11 are above the State average in natural fertility and 18, 20, 24 and 26 below, and yet the reverse is true of their crop yields. There is hardly a poorer soil in the world than the old dunes of the east coast strip, but they are largely planted in oranges and pineapples, and that region has the highest land and crop values in the State, several times the average for the United tSates. This represents the nearest approach in Florida to the intensive farming of Europe, China and Japan. Curiously enough, there were fifteen Japanese farmers in Palm Beach County in 1910 (and only one in the rest of the State), and their land was worth more per acre than that of the white farmers. The census tells nothing about their expenses and receipts, but it is safe to assume that they got a little more out of each acre than the whites did.

Some people seem to think that the efficient farming and other evidences of high civilization in South Florida must be due to the large number of settlers from the North. Since 1880 the census has not given the number of immigrants from other states for areas smaller than states, except the larger cities, but in the light of the returns from presidential elections it is pretty certain that Northerners are not and never have been in the majority in any county or region in Florida. Furthermore, it is believed by sociologists that emigrants from any region are less efficient than the average of those who stay at home (for a man who is successful usually has little incentive to migrate), so that it is extremely improbable that the presence of a few "expatriated" northern farmers would be enough in itself to raise the efficiency of farming far above the United States average. In fact it is thought that the most successful farmers in South Florida are those born either in Florida or some other Southern state, such as Georgia. For those from farther awaya re likely to find conditions too different from what they have been accustomed to.

This hypothesis of northern immigrants also falls far short of explaining why the 1909 crops of Georgia were worth about 40 per cent. more than those of Pennsylvania, which had about the same improved acreage and nearly three times as many people, a little more than those of Kansas, which had more than double the improved acreage, and nearly as much as those of Ohio, which had over 50 per cent. more improved land.

It might be supposed also that the rather low crop yields in Middle Florida are correlated with the large proportion of negroes there. The census does not give complete statistics of the agricultural operations of the two races separately, but it does give (in a volume on negro population published late in 1918) the acreage and yield of cotton and corn for white and negro farmers in most counties in the South, and there is comparatively little difference between them. This is bound to be so, for if a white man and a negro both have similar land on neighboring farms it is necessarily assessed at the same value per acre, or practically so, and if the negro did not make nearly as much per acre as the white man he could not pay his rent or taxes, and would have to give it up. The significant difference between the two races is that the negro has simpler tastes and therefore requires fewer acres to supply his wants.

The principal factors which have favored the development of such intensive farming in South Florida are probably good railroad connections with the large northern markets, and especially the mild winters, which give that section an advantage over all the rest of the country in raising early vegetables, strawberries, etc., and in making more than one crop a year on the same land. These advantages are practically independent of soil conditions.

The next table illustrates a number of extreme conditions different from any found in Florida, but confirms the general principles already set forth. It treats the whole United states and twenty-five selected states in the same manner that the regions of Florida are treated in Table 1, except that cash and board compensations of laborers are combined to save space, and columns are added for percentage of improved land and for value of crops per acre in crops.

The percentage of improved farm land (relative to total area) is a very good index of soil fertility, except where it is limited by the presence of large cities, mountains or swamps, or where the region is newly settled, or so arid that very little land can be cultivated without irrigation. Practically all arid soils are rich (if they do not go to the extreme of being too strongly alkaline), but in the West most of the arid land is too far from rivers or too high up ever to be irrigated by any method now in common use, so that the percentage of improved land in all the Western States is low.

The percentage of improved land could not be given very accurately for the regions in Florida already described, on account of the lack of correspondence between county boundaries and natural boundaries. For example, Leon County was 23.9 per cent. improved in 1910, but that means nothing, for the red hills in the northern part are about half under cultivation, while the sandy southern part is probably not 5 per cent. improved. There is less error in the statistics based on the number of farms or improved acres, though, for those are so much more numerous in the northern than in the southern part that the averages represent the red hills very well. And it is indeed conceivable that the average size of farms and value of products per acre might be nearly the same in different parts of the county, however the proportion of improved land varies.

The value of crops with known acreage, per acre in crops, for the whole country and the several states is taken bodily from one of the census tables, but it is not given directly by the census for areas smaller than states, and could not be ascertained for the several regions of Florida without laborious computations.

The ratios between expenditures for feed and value of animal products on the one hand and improved land on the other mean very little by themselves, but their ratio to each other and to the figures in the columns immediately preceding them is quite significant.

It is hardly necessary to explain that all the figures in Table 2 except those in the first column represent dollars and cents. Not being carried out to mills, values less than half a cent (which occur in only three places) are represented by 0.

TABLE 2.

Statistics illustrating soil productivity in the United States at different times and in 25 selected states.

STATES, ETC.	Per cent of land improved	Value of farm land per acre	Expenditure in previous year, per acre improved, for			Value of crops per acre in crops	Value per acre improved land	
			Labor (board included)	Fertilizers	Feed		Crops	Animal products
Whole United States, 1879-80	15.0	....	....	0.10	......	......	7.77	
Whole United States, 1889-90	18.8	....	....	0.11	......	......	6.90	
Whole United States, 1899-1900	21.8	15.57	0.86	0.13	......	......	7.66	
Whole United States, 1909-10	25.1	32.40	1.36	0.24	0.63	16.30	11.23	6.20
1909-10								
Alabama	29.5	10.46	0.77	0.79	0.42	18.85	14.90	2.69
California	11.4	47.16	4.39	0.19	1.11	20.40	13.45	6.12
Connecticut	32.0	33.03	6.96	1.98	5.48	36.90	22.80	14.85
Florida	5.4	17.84	2.97	2.00	1.00	20.65	20.00	3.99
Georgia	32.7	13.74	1.07	1.37	0.33	22.20	18.45	2.42
Illinois	78.2	95.02	1.29	0.02	0.50	17.90	13.30	7.59
Iowa	82.9	82.58	0.84	0	0.63	14.95	10.65	9.60
Kansas	57.1	35.45	0.69	0	0.60	10.60	7.17	5.78
Kentucky	55.8	21.83	0.85	0.09	0.28	20.80	9.70	5.51
Louisiana	18.2	17.99	3.17	0.38	0.72	21.00	14.65	2.33
Maine	12.3	13.73	2.39	1.80	3.08	19.85	16.65	9.18
Massachusetts	22.6	36.69	10.39	1.69	9.33	41.50	27.40	23.60
Michigan	34.9	32.48	1.49	0.07	0.44	17.33	12.60	7.05
Mississippi	30.4	13.69	0.80	0.30	0.44	22.60	16.35	2.72
New Hampshire	16.1	13.70	3.63	0.55	4.62	19.30	17.20	13.65
New Jersey	37.5	48.23	6.15	2.37	3.29	33.30	22.30	12.37
New York	48.7	32.13	2.78	0.48	1.99	20.80	14.10	9.60
North Carolina	28.3	15.29	1.05	1.39	0.36	22.30	16.20	3.72
Ohio	73.7	53.34	1.35	0.22	0.33	18.80	11.90	8.10
Rhode Island	26.1	33.86	9.88	1.88	9.40	40.50	22.05	22.80
South Carolina	31.2	19.89	1.77	2.49	0.30	26.40	23.30	2.28
Tennessee	40.8	18.53	0.78	0.11	0.33	17.05	11.10	6.56
Vermont	28.0	12.52	2.91	0.35	2.92	18.40	16.85	13.50
Virginia	38.3	20.24	1.35	0.70	0.35	20.25	10.15	5.05
Wyoming	2.0	10.41	4.92	0	1.20	12.44	8.00	18.20

As before, a general correspondence between expenditures and reecipts can be observed throuhgout the table, regardless of soil fertility, which is indicated pretty well by the first column, when certain limitations are borne in mind. The increase in improved land in the whole country in forty years is due mostly to the settling up of the West; and the proportion is lower than it would be otherwise in New Hampshire on account of mountains, in Florida and Louisiana on account of swamps and marshes, in southern New England on account of cities and factories, and in western Kansas, Wyoming and California on account of lack of sufficient water to irrigate all the land.

Illinois and Iowa, the most fertile of the Eastern or non-irrigated states, are good illustrations of the drawback of high land values. The expense of fertilizing there is practically nothing, and labor is not a large item either, for the land is mostly so level and free from rocks that it can be cultivated with heavy machinery; but competition for the use of such land puts its price so high that the interest on it at any reasonable rate would exceed all the other expenses listed, and therefore the profits per acre are no greater than on Florida's sand. The reason that farmers in the prairie states generally have better houses, more automobiles, etc., than the average of those in the South and East is not that they make any more profit to the acre (for they often make less, as the table shows), but that they usually cultivate more acres. Many of the more prosperous farmers in Florida operate on a similar scale, though, and have equally high standards of living, and the nature of the soil does not hinder them.

Attention should be called to the fact that both tables show apparently a considerable increase in expenditures and receipts per acre in Florida and the whole country between 1899 and 1909. This, however, does not indicate increased intensity of farming so much as a mere rise in prices. According to the Thirteenth Census (Vol. 5, p. 535, also Abstract, p. 363) the price of all crops in the United States, for the same units, was just about two-thirds higher in 1909 than in 1899; and the effect of increasing population added to the shrinkage of the dollar made the average value of farm land and buildings just about double in the same period. About ten years ago there was a great outcry all over the country about the high cost of living, but very few people traced it to its main source, which seems to have been simply the increased production of gold in the Klondike region and elsewhere, beginning near the end of the last century. The discoveries of gold in California in 1849 boosted farm prices all over the country in much the same way; and at the present time prices of nearly everything all over the world are the highest ever known, on account of the inflation of currency necessitated by the recent great war. (At the census of 1870 currency in the United States was inflated about 25 per cent. as a result of the Civil War, but it returned to normal a few years after that.)

When the returns of this year's census are all in it will probably be found that farm prices are at least double those often years ago, and it will take considerable study to determine just how much, if any, farming has increased in efficiency during the decade. The recent report that Florida's crops last year were worth $65 an acre, or over three times what they were in 1909, may indicate that Florida has made more progress than the rest of the country.

Another point to bear in mind is that the figures given in the foregoing tables represent the averages of many farms, some barely making both ends meet and others making large profits; and in such matters as size of farms, value of land and buildings, yield of crops, etc., usually about two-thirds of the farms in a given county or state are below the average, and some far above. Consequently, although it is obviously impossible for all or even a majority to rise above the average of their communities, any individual with sufficient ability and ambition can put himself in the upper third, and there is practically no limit to what he can accomplish, regardless of what sort of soil he has, provided he does not attempt a system of farming wholly unsuited to the locality.

Every region on earth has its advantages and disadvantages, but the opportunities in Florida, for those who know how, and appreciate having plenty of room and a genial climate, are at least as good as in any of the older and more thickly settled States. Farming may seem a simple business to those who see illiterates making a success of it, but it is really very complex, and a man who has spent his life on a farm, even if he has no book-learning whatever, has accumulated by observation and through the precepts of his elders a vast fund of information about soils, weather, crops, domestic animals, insect pests, and marketing and other economic problems, to say nothing of human nature. A newcomer who has this sort of information, gained in a region not too different from that to which he removes, or has mastered the fundamental principles by long and careful study of what has been written on the subject, or has sufficient capital to support him a few years while he is gaining the necessary experience or to hire a competent person to supervise his farming operations, can succeed anywhere in Florida; but one not thus equipped is taking a considerable risk.

An interesting result of the intensity of farming that prevails in some parts of Florida may be that such regions will soon have a denser population than some of the fertile wheat regions of the West, where one man can easily work a hundred acres, and where one farm often occupies a whole section of land; and Florida's influence in the councils of the nation will then be correspondingly greater. Right now there are several counties in Florida that have more people to the square mile than Iowa (which had 82.9 per cent. of its area improved in 1910), and they are not all city counties either; Gadsden, with 85 per cent. of its population rural and only 23 per cent. of its land improved, being one of them. And Alachua, Bradford, Columbia, Hamilton, Holmes, Jackson, Jefferson, Leon, Madison and Suwanee all had denser populations in 1910 than the state of Kansas, with its 57.1 per cent. of improved land. In such a state as Iowa no further extension of agriculture is possible (the improved area decreased a little between 1900 and 1910, probably on account of the growth of towns and cities), and the population can only increase by changing to a more intensive system of farming or going more into manufacturing.

EXTENSION DIVISION UNIVERSITY OF FLORIDA,

P. H. ROLFS, DIRECTOR, GAINESVILLE.

C. K. McQuarrie, State Agent, Gainesville.

A. P. Spencer, Vice Director and District Agent, South Florida, Gainesville.

E. W. Jenkins, District Agent, Central Florida, Gainesville.

H. G. Clayton, District Agent, North and West Florida, Gainesville.

R. W. Blacklock, Boys' Club Agent, Gainesville.

E. F. DeBusk, Assistant Boys' Club Agent, Gainesville.

J. M. Scott, Animal Industrialist, Gainesville.

N. W. Sanborn, Poultry Specialist, Gainesville.

Ralph Stoutamire, Agricultural Editor, Gainesville.

A. A. Turner, Local District Agent (colored), Tallahassee.

COUNTY HOME DEMONSTRATION AGENTS

COUNTY	NAME	ADDRESS
Alachua	Miss Irene Randall	Gainesville.
Broward	Mrs. A. H. Peay	Ft. Lauderdale.
Calhoun	Mrs. Grace F. Warren	Blountstown.
Citrus	Mrs. Mary E. Brooks	Inverness.
Columbia	Miss Marie Cox	Lake City.
Dade	Miss Genevieve Crawford	Miami.
Dade, Asst.	Mr. Nellie A. Bush	Goulds.
De Soto		
De Soto, Asst.	Miss Beulah Pipkin	Wauchula.
Duval	Miss Ellen Lenoir	Chamber Commerce, Jacksonville.
Escambia	Miss Margaret Cobb	Pensacola, Court House Annex.
Gadsden	Miss Ruby McDavid	Hinson.
Hernando	Miss Ora Herndon	Brooksville.
Hillsboro	Mrs. Edith Young Morgan	Tampa, City Hall.
Hillsboro, Asst.		
Jefferson	Miss Posey Taylor	Lloyd.
Lee	Miss Margaret Burleigh	Ft. Myers.
Leon	Mrs. Mary S. Russell	Tallahassee, 334 St. Augustine St.
Madison	Miss Edna Smith	Madison.
Manatee	Mrs. Ivie Turnbull	Brandentown.
Orange	Mrs. Nellie W. Taylor	Orlando.
Osceola	Miss Alibna Smith	Kissimmee.
Palm Beach	Miss Elizabeth Hopkins	West Palm Beach.
Pasco	Mrs. Harriet Ticknor	Dade City.
Pinellas	Mrs. Anne J. Campbell	Clearwater.
Polk	Miss Lois Godbey	Bartow.
Putnam	Miss Floresa Sipprell	Palatka.
St. Johns	Miss Anna E. Heist	St. Augustine.
Santa Rosa	Mrs. Winnie Warren McEwen	Milton.
Suwannee	Miss Alice Dorsett	Branford.
Taylor	Miss Pearl Laffitte	Perry.

DIRECTORY OF COUNTY AGENTS

COUNTY.	NAME.	ADDRESS.
Alachua	C. D. Gunn	Gainesville
Bay	G. E. Mead	Panama City
Bradford	J. O. Traxler	Starke
Brevard	K. E. Bragdon	Cocoa
Citrus	R. J. Dorsett	Inverness
Columbia	H. A. McDonald	Lake City
Dade	J. S. Rainey	Miami
DeSoto	J. M. Tillman	Arcadia
Duval	W. L. Watson	Jacksonville
Escambia	J. Lee Smith	Pensacola
Hernando	Jas. Mountain	Brooksville
Hillsboro	R. T. Kelley	Plant City
Holmes	J. J. Sechrest	Bonifay
Leon	R. I. Matthews	Tallahassee
Liberty	A. W. Turner	Bristol
Madison	C. E. Matthews	Madison
Manatee	W. R. Briggs	Bradentown
Marion	W. A. Sessoms	Ocala
Okaloosa	R. J. Hart	Laurel Hill
Orange	C. D. Kime	Orlando
Osceola	Leo H. Wilson	Kissimmee
Palm Beach	R. A. Conkling	West Palm Beach
Pasco	F. G. Merrin	Dade City
Polk	Wm. Gomme	Bartow
Putnam	H. R. Tribble	Palatka
St. Johns	J. G. Clemons	St. Augustine
St. Lucie	A. Warren	Ft. Pierce
Santa Rosa	J. C. Sechrest	Milton
Seminole	C. M. Berry	Sanford
Suwanee	D. A. Armstrong	Live Oak
Taylor	L. R. Moore	Perry
Volusia	W. E. Dunaway	De Land
Walton	J. W. Mathison	DeFuniak Springs

LEGAL FENCE FOR FLORIDA

So many inquiries have come to the department as to what constitutes a "legal fence" that we are herewith inserting a section from the Statutes on this point. Any fence not coming up to these specifications may be said to be "illegal"—that is, it does not meet the requirements, and is the same as no fence in the eyes of the law. This does not apply to counties that have the "no-fence" law.

"1233. Requirements of Fence.—All fences or enclosures of land shall be substantially constructed, whether with rails, logs, posts and railings, iron, steel, or other material, and not less than five feet high, to the extent of two feet from the ground there shall not be a space between the material used in the construction of any fence greater than four inches.

"Provided, That when any fence or enclosure shall be made with a trench or ditch, the same shall be four feet wide; and in that case the fence shall be five feet high from the bottom of the ditch to the top of the fence."

See Sections 1234 to 1240, bearing on other phases of this question. General Statutes of Florida.

Most lawyers have the General Statutes and would allow reference to that book.

FROM THE EDITORIAL BUREAU, FLORIDA STATE FAIR AND EXPOSITION, JACKSONVILLE, FLA.

The Florida State Fair and Exposition, which will be staegd in Jacksonville November 18 to 27, will far surpass any previous fairs in Florida's history. Elaborate plans are being made by the management to accommodate tremendous crowds, as the indications are that all attendance records will be smashed this year. As usual, the railroads and other tarnsportation lines have offered reduced rates from all points in Florida, as well as neighboring States.

Here are some of the high lights of the Florida State Fair and Exposition scheduled for Jacksonville, November 18 to 27:

Finest display of agricultural and horticultural products ever exhibited in the State.

Million-dollar livestock show, setting forth the tremendous strides Florida is mkaing in this new and important industry.

Display of thoroughbred swine, demonstrating the possibilities of hog raising in Florida.

Complete exhibit of the work performed by the boys' and girls' clubs of the State.

Exhibit of dairy cows, showing that in four years Florida has entered the dairy State class with both feet.

Interesting exhibit of work being accomplished by the negro race in all lines of activity, including agricultural, horticultural and varied industries.

Greatest poultry show ever staged in Florida.

A rabbit show that will rank with the best in the country.

Made in Florida exhibit, a graphic demonstration of Florida's industrial progress.

Women's achievements, a comprehensive display that must command instant attention.

Apiary display, automobile show, display of farm implements, weather bureau exhibit, new governmuet exhibit, good roads exhibit, Canadian government exhibit, and many others impossible to set forth here ebcause of lack of space.

With practically twenty counties assured for space in the county exhibit building, the 1920 Florida State Fair and Exposition, which will be staged in Jacksonville November 18 to 27, will offer Floridians, as well as visitors from neighboring and distant States, the finest and most comprehensive display of agricultural and horticultural products ever exhibited under one roof in the State's history.

A visit to this building will give the visitor in one afternoon more reliable informtaion concerning the resources, climate and topography of Florida than could be obtained in a thirty-day tour.

The exhibit will be a revelation to even the life long resident of the State in its portrayal of the resources and the unrivalled richness and variety of Florida's proucts.

A rearrangement of classifications this year allows counties, essenlialty agricultural, and this refers to the northern group, to compete in the class in which they are best fitted, while those producing principally citrus fruits will compete in the horticultural division. The counties falling in the latter are the southern group. No one county, however, will be permitted to exhibit in both classifications.

The fair association is confident that at least 25 counties will exhibit this season. A year ago only 17 counties competed for the grand prizes, consequently it can be seen that the exposition this season will far surpass any State fair ever held in Florida.

Those counties which have either contracted for space or promised to come in include Escambia, Walton, Jackson, Holmes, Gadsden, Leon, Madison, Suwannee, Bay, Bradford, Alachua, Marion, Citrus, Putnam, DeSoto, St. Lucie, Palm Beach, Duval, Dade, Nassau, and Columbia. A number of others are debating the question and will likely decide in the affirmative.

This array of the State's richest counties indicates the State fair has at last arrived in its own—a truly representative State exposition.

The prizes offered in this competition, as well as in all other departments, are worth winning. In fact, the premium list shows that the fair in this respect is on a par with all great fairs held in the United States.

AVERAGE PRICES RECEIVED BY UNITED STATES PRODUCERS.

(Compiled by U. S. Department of Agriculture July, 1920.)

Prices of articles quoted below as 1st of month are averages of reports of county crop reporters, weighted according to relative importance of county and State; 15th of month prices are averages of returns from a list of about 7,000 country buyers; State averages are weighted according to their relative importance to obtain the United States averages.

Date.	Wheat.	Corn.	Oats.	Barley.	Rye.	Buckwheat.	Potatoes.	Sweet potatoes.	Flaxseed.	Apples.	Hay.	Cotton.	Butter.	Eggs.	Chickens.
1911, June 1	86.3	55.1	34.7	73.8	77.9	70.1	63.3	98.7	225.0	137.5	12.38	14.6	20.3	14.5	11.0
1912, June 1	102.8	82.5	55.3	91.1	86.1	84.8	119.7	115.0	205.0	118.4	16.22	11.0	24.8	16.7	11.1
1913, June 1	82.7	60.6	36.0	52.7	64.1	70.8	55.2	92.0	115.8	97.6	10.55	11.5	25.5	16.9	12.0
1914, June 1	84.4	75.0	40.0	49.1	64.4	79.0	71.3	94.2	136.8	141.0	11.64	12.4	22.8	17.3	12.5
1915, June 1	131.5	77.9	51.3	62.0	98.1	86.9	50.8	96.7	169.5	90.4	11.16	8.6	24.8	16.6	12.2
1916, June 1	100.0	74.1	42.1	59.6	83.8	87.0	98.8	83.4	176.5	105.4	11.47	12.2	26.5	19.0	13.5
1917, June 1	248.5	160.1	69.9	119.3	183.0	183.7	274.0	149.4	298.8	157.2	14.68	20.2	35.0	31.1	17.5
1918, June 1	202.5	152.5	78.1	135.4	187.6	191.0	75.5	148.8	363.6	158.2	17.13	27.4	38.6	29.8	20.0
1919, June 1	228.4	171.2	71.2	109.2	143.7	165.6	121.4	173.7	389.3	237.3	23.30	29.5	49.1	38.6	25.7
July 1	222.0	176.5	70.9	108.4	138.6	160.8	128.4	159.8	444.1	197.7	21.73	31.1	47.2	36.8	25.2
Aug. 1	217.2	191.2	75.3	118.7	149.7	165.9	192.8	167.9	540.6	174.7	20.16	32.5	48.2	39.3	25.9
Sept. 1	205.7	185.4	71.7	115.6	138.3	159.8	187.5	175.4	517.5	162.0	20.52	30.3	49.7	41.0	25.7
Oct. 1	209.6	153.9	68.4	115.3	135.8	162.0	164.2	154.7	438.2	171.1	19.79	31.3	51.5	44.7	24.2
Nov. 1	213.2	133.4	68.7	117.1	129.8	151.0	152.8	143.9	382.3	182.8	19.36	36.5	56.0	54.0	22.9
Dec. 1	215.1	134.9	71.7	120.9	134.5	147.4	161.4	133.3	438.9	186.8	20.15	35.7	60.0	61.9	22.3
1920, Jan. 1	231.8	140.4	78.2	130.2	152.3	150.7	178.6	138.2	433.6	213.8	20.55	35.9	61.3	64.8	29.6
Feb. 1	235.7	146.8	82.7	137.1	154.5	154.9	217.6	156.6	456.5	214.7	21.76	36.2	57.8	56.9	24.1
Mar. 1	226.6	148.5	84.5	129.3	145.0	155.7	243.5	172.2	472.7	231.8	22.31	36.2	55.9	46.6	25.4
Apr. 1	234.0	158.6	90.7	140.0	156.1	163.1	295.6	185.8	455.7	260.1	22.94	37.3	56.1	38.8	26.8
May 1	251.3	169.6	98.3	146.4	183.1	168.8	393.6	205.2	448.2	285.5	24.22	37.7	57.6	37.4	27.4
June 1	258.3	185.2	102.9	148.3	183.9	180.2	421.3	216.6	421.1	297.0	24.85	37.2	53.5	37.0	27.2

AVERAGE PRICES RECEIVED BY UNITED STATES PRODUCERS.—(Continued.)

Date.	Hogs.	Beef cattle.	Veal calves.	Sheep.	Lambs.	Wool.	Milk cows.	Horses.	Cabbage.	Onions.	Beans.	Hay		
												Timothy.	Clover.	Alfalfa.
1911, May 15	5.72	4.59	5.68	4.51	5.74	14.7	44.54	146	1.38	1.29	2.17	.....	.....	.....
1912, May 15	6.79	5.36	6.23	4.74	6.16	17.8	45.63	144	2.98	1.77	2.52	.....	.....	.....
1913, May 15	7.45	6.01	7.17	4.91	6.66	16.3	54.80	145	1.58	.87	2.18	.....	.....	.....
1914, May 15	7.60	6.33	7.59	4.87	6.49	17.2	59.85	139	2.05	1.53	2.31	13.46	12.53	10.26
1915, May 15	6.77	6.13	7.35	5.54	7.32	22.0	58.29	133	2.53	1.03	2.93	14.74	13.79	9.58
1916, May 15	8.37	6.73	8.08	6.66	8.49	28.0	60.98	134	1.93	1.23	3.56	14.50	12.52	10.56
1917, May 15	13.72	8.70	10.48	10.15	12.51	43.7	72.78	138	7.53	3.98	8.94	15.31	13.94	17.92
1918, May 15	15.84	10.38	11.62	12.32	15.39	58.2	84.11	136	3.23	1.35	6.67	20.40	18.30	17.84
1919, May 15	18.00	10.84	12.11	10.93	14.34	48.0	93.43	129	4.97	2.30	4.19	27.27	25.33	23.32
June 15	17.80	10.20	12.40	10.34	13.89	50.5	93.84	127	4.68	2.34	4.39	27.50	25.48	20.89
July 15	19.22	9.96	13.38	9.25	13.09	51.8	94.51	127	4.23	2.32	4.25	24.22	22.02	20.15
Aug. 15	19.30	9.82	13.43	9.06	12.91	52.2	94.72	125	3.73	2.26	4.30	23.89	21.58	20.72
Sept. 15	15.81	9.02	13.39	8.69	12.25	51.3	93.42	119	3.08	1.95	4.36	23.65	21.74	20.89
Oct. 15	13.88	8.65	12.87	8.46	11.47	50.6	93.43	114	2.88	1.96	4.27	23.04	21.17	20.56
Nov. 15	13.36	8.65	12.65	8.35	11.45	51.0	93.27	113	2.74	2.12	4.42	22.90	21.61	21.63
Dec. 15	12.66	8.63	12.67	8.53	11.85	51.6	95.54	113	3.49	2.46	4.41	23.71	22.60	22.95
1920, Jan. 15	13.36	8.99	12.89	9.34	12.91	53.3	94.42	118	4.31	2.81	4.70	24.59	23.78	24.13
Feb. 15	13.62	8.98	13.12	9.97	14.08	52.5	95.27	123	5.05	3.07	4.47	25.49	24.94	24.41
Mar. 15	13.59	9.08	12.98	10.25	14.17	51.5	94.94	127	5.25	3.26	4.32	26.75	26.13	24.68
Apr. 15	13.73	9.20	12.72	10.66	14.63	51.3	95.36	131	5.59	3.44	4.41	27.99	26.93	24.57
May 15	13.44	8.97	11.69	10.34	14.26	50.3	94.56	132	6.75	3.38	4.36	29.92	28.31	25.68

AVERAGE PRICES RECEIVED BY UNITED STATES PRODUCERS.—(Continued.)

	Clover. seed.	Timothy seed.	Alfalfa seed.	Cotton seed.	Broom corn.	Cowpeas.	Kaffir corn.	Bran.	Cottonseed meal.	Cottonseed hulls.	Hops.	Peanuts.	Maple syrup.
1911, May 15	8.74	5.24	.....	25.46	81	.....	.....	25.93	31.08	.....	20.9	4.8	.....
1912, May 15	12.53	7.16	.....	19.21	83	.....	.....	30.18	32.28	.....	37.2	4.9	1.09
1913, May 15	10.74	1.76	8.21	21.88	53	.....	.....	24.59	31.23	.....	13.4	4.7	1.08
1914, May 15	7.87	2.38	6.77	23.56	85	.....	.....	28.08	32.98	.....	21.8	5.1	1.10
1915, May 15	8.14	2.75	7.01	22.07	75	2.02	.....	28.41	31.54	8.93	10.9	4.8	1.07
1916, May 15	9.98	3.33	10.70	37.91	101	1.49	0.58	25.97	35.72	14.69	12.7	4.6	1.15
1917, May 15	10.40	3.09	8.85	55.61	252	2.93	1.88	44.19	45.62	19.65	.....	7.2	1.34
1918, May 15	16.56	3.84	10.09	68.16	206	2.83	2.11	42.41	56.21	23.52	.....	8.2	1.85
1919, May 15	24.48	5.05	12.13	63.83	152	2.92	1.74	48.66	63.40	20.17	.....	7.2	2.02
June 15	23.37	4.63	11.79	63.80	106	3.44	1.74	47.54	63.06	19.59	.....	7.7	2.19
July 15	23.25	4.49	10.88	64.24	119	3.43	1.76	47.14	64.77	19.32	.....	8.2	.....
Aug 15	24.33	4.58	11.34	66.23	124	3.10	1.77	49.28	71.72	18.44	.....	8.1	.....
Sept. 15	25.38	4.55	12.34	62.13	154	2.69	1.54	49.58	74.08	18.02	56.6	8.3	.....
Oct. 15	26.47	4.78	14.90	66.95	162	2.61	1.40	47.70	72.58	16.63	.....	8.1	.....
Nov. 15	26.53	4.67	15.23	72.65	161	2.71	1.34	48.32	76.16	17.55	77.0	9.1	.....
Dec. 15	27.63	4.98	16.68	69.07	163	2.81	1.44	48.79	78.57	17.63	.....	9.1	.....
1920, Jan. 15	28.06	5.35	16.60	69.88	163	3.13	1.37	50.23	79.39	16.78	.....	9.9	.....
Feb. 15	31.21	5.62	19.57	69.54	123	3.72	1.39	51.13	79.79	17.01	.....	10.5	2.35
Mar. 15	31.88	5.61	21.43	67.18	130	3.94	1.30	51.95	79.70	17.39	.....	11.2	2.58
Apr. 15	32.23	5.63	21.80	68.71	145	4.21	1.45	55.26	78.87	19.04	.....	10.9	2.92
May 15	29.84	5.61	22.40	69.88	146	4.84	1.54	58.69	78.74	20.06	.....	11.2	2.93

IMPROVED ROADS.

Total Mileage by Counties—Information Obtained from Various Sources.
Prepared by State Road Department.

COUNTIES	CONSTRUCTED.								UNDER CONSTRUCTION.				
	Brick	Concrete	Asphaltic	Penetration or Surfaced Macadam	Rock or Plain Macadam	Shell	Marl or Sand Clay	Total	Brick	Penetration	Sand Clay	Concrete	Total
Alachua	.....	.....	.....	.....	24	.....	33	57	.....	20	.....	.....	20
Baker	.....	.....	.....	.....	.....	.....	3	3	.....	27	.....	.....	27
Bay	.....	.....	.....	.....	.....	.....	33	33	.....	.....	27	.....	27
Bradford	.....	.....	.....	.....	.....	.....	15	15	.....	.....	.....	.....	....
Brevard	.....	.....	.....	5	.....	86	.....	91	.....	.....	.....	.....	....
Broward	.....	.....	.....	25	112	.....	.....	137	.....	.....	.....	.....	....
Calhoun	.....	.....	.....	.....	.....	.....	32	32	.....	.....	12	.....	12
Citrus	.....	.....	.....	.....	58	.....	36	93	.....	.....	.....	.....	....
Clay	.....	.....	14	.....	.....	.....	18	32	.....	.....	.....	.....	....
Columbia	.....	.....	.....	.....	.....	.....	12	12	.....	45	.....	.....	45
Dade	.....	.....	.....	85	235	.....	.....	320	.....	.....	.....	.....	....
DeSot.o	21	6	29	.....	.....	10	95	161	.....	.....	20	.....	20
Duval	80	6	.....	2	4	114	10	216	.....	15	.....	.....	15

IMPROVED ROADS—(Continued.)

Total Mileage by Counties—Information Obtained from Various Sources.
Prepared by State Road Department.

COUNTIES	CONSTRUCTED.								UNDER CONSTRUCTION.				
	Brick	Concrete	Asphaltic	Penetration or Surfaced Macadam	Rock or Plain Macadam	Shell	Marl or Sand Clay	Total	Brick	Penetration	Sand Clay	Concrete	Total
Escambia	.....	.....	.....	.....	.....	.....	154	154	.....	.....	.....	1	1
Flagler	18	.....	.....	.....	.....	.....	.....	18	.....	9	.....	.....	9
Franklin	.....	.....	.....	.....	.....	11	.....	11	.....	.....	.....	.....	....
Gadsden	.....	.....	.....	.....	.....	.....	92	92	.....	.....	14	.....	14
Hamilton	.....	.....	.....	.....	.....	.....	3	3	.....	.....	.....	.....	....
Hernando	.....	.....	.....	.....	25	.....	42	67	.....	.....	.....	.....	....
Hillsborough	63	.....	20	.....	.....	70	15	168	.....	.....	.....	.....	....
Holmes	.....	.....	.....	.....	.....	.....	47	47	.....	.....	14	.....	14
Jackson	.....	.....	.....	.....	.....	.....	752	752	.....	.....	.....	.....	....
Jefferson	.....	.....	.....	.....	.....	.....	75	75	.....	.....	.....	.....	....
LaFayette	.....	.....	.....	.....	.....	.....	9	9	.....	.....	.....	.....	....
Lake	.....	.....	32	.....	.....	.....	120	152	.....	.....	.....	.....	....
Lee	.....	.....	.....	12	.....	54	40	106	.....	.....	.....	.....	....

Leon	.....	.....	.....	.....	.....	4	120	124	.....	.....	.....	.....	....
Liberty	.....	.....	.....	.....	.....	.....	14	14	.....	.....	.....	.....	....
Levy	.....	.....	.....	.....	14	.....	28	42	.....	.....	.....	.....	....
Madison	.....	.....	.....	.....	.....	.....	49	49	.....	.....	6	.....	6
Manatee	.....	.....	44	.....	.....	42	.....	86	.....	16	.....	.....	16
Marion	.....	.....	.....	.....	75	.....	30	105	.....	20	.....	.....	20
Monroe	.....	.....	.....	.....	4	.....	.....	4	.....	.....	.....	.....	....
Nassau	.....	.....	.....	.....	.....	31	10	43	.....	2	12	.....	14
Okaloosa	.....	.....	.....	.....	.....	.....	35	35	.....	.....	.....	.....	....
Okeechobee	.....	.....	.....	.....	.....	.....	5	5	.....	.....	.....	.....	....
Orange	56	.....	.....	.....	.....	.....	25	81	.....	.....	.....	.....	....
Osceola	28	.....	25	.....	.....	.....	.....	53	.....	.....	.....	.....	....
Palm Beach	.....	.....	.....	145	55	28	20	248	.....	.....	.....	.....	....
Pasco	.....	.....	.....	16	20	.....	43	79	.....	.....	.....	.....	....
Pinellas	80	.....	.....	.....	34	12	.....	126	.....	.....	.....	.....	....
Polk	.....	.....	320	.....	.....	.....	.....	320	.....	.....	7	.....	7
Putnam	20	.....	11	.....	.....	21	15	67	.....	21	.....	.....	21
St. Johns	46	.....	.....	.....	.....	.....	.....	46	.....	.....	.....	.....	....
St. Lucie	.....	.....	.....	21	.....	35	9	65	.....	.....	.....	.....	....
Santa Rosa	.....	.....	.....	.....	.....	.....	14	14	6	.....	.....	.....	6
Seminole	40	.....	.....	6	.....	.....	10	56	.....	.....	.....	.....	....
Sumter	.....	.....	.....	.....	.....	.....	28	28	.....	.....	.....	.....	....
Suwannee	.....	.....	.....	.....	.....	.....	56	56	.....	.....	.....	.....	....
Taylor	.....	.....	.....	38	.....	.....	18	56	.....	.....	.....	.....	....
Volusia	28	2	18	.....	4	85	.....	137	.....	19	.....	.....	19
Wakulla	.....	.....	.....	.....	6	.....	.....	6	.....	.....	.....	.....	....
Walton	.....	.....	.....	.....	.....	.....	112	112	.....	.....	.....	.....	....
Washington	.....	.....	.....	.....	.....	.....	30	30	.....	.....	.....	.....	....
Totals	480	14	513	355	670	603	2,306	4,943	6	194	112	1	313

PART II.

CROP REPORT

DIVISIONS OF THE STATE BY COUNTIES.

Following are the subdivisions of the State, and the counties contained in each:

Western Division.

Bay,
Calhoun,
Escambia,
Holmes,
Jackson,
Okaloosa,
Santa Rosa,
Walton,
Washington—9.

Northern Division.

Franklin,
Gadsden,
Hamilton,
Jefferson,
Lafayette,
Leon,
Liberty,
Madison,
Taylor.
Wakulla—10.

Northeastern Division.

Alachua,
Baker,
Bradford,
Clay,
Columbia,
Duval,
Nassau,
Putnam,
St. Johns,
Suwannee—10.

Central Division.

Brevard,
Citrus,
Flagler,
Hernando,
Hillsborough,
Lake,
Levy,
Marion,
Orange,
Osceola,
Pasco,
Pinellas,
Polk,
Seminole,
Sumter,
Volusia—16.

Southern Division.

Broward,
Dade,
DeSoto,
Lee,
Manatee,
Monroe,
Okeechobee,
Palm Beach,
St. Lucie—9.

DEPARTMENT OF AGRICULTURE.

W. A. McRae, Commissioner. T. J. Brooks, Chief Clerk.

Condensed Notes of Correspondents, by Divisions.

Western Division.—Reports indicate fairly average condition. Early crops were good and later ones suffered from excess of rain. Tobacco was cut without damage, and the price was quite satisfactory. Corn was damaged, and cotton even more so, by too much rain. Pastures have been most excellent all the season, and livestock conditions correspondingly good. The rains now having checked, we may expect a full yield of fall crops. Peanuts promise a splendid yield.

Northern Division.—The entire northern division of the State, from Jacksonville to Pensacola, has had very similar climatic conditions, with similar results.

Northeastern Division.—This division suffered even more from the excessive rains than those above mentioned —for the reason that the country does not have the natural drainage that the more northwestern division has. But the Irish potato crop was over a hundred per cent and the prices good.

Central Division.—Corn was damaged by rains, and caterpillars are seriously damaging sweet potatoes, cow peas, and velvet beans in some sections. The late, cool spring affected the fruit crops in some sections. However, a good yield of citrus fruit is indicated and livestock interests are thriving.

Southern Division.—Increase in acreage in this division is remarkable. The yields of citurs fruits and sugar cane are indeed promising, and a fine vegetable crop may be expected.

Wool and stock hogs are slightly below last year.

This year's production for the State will probably exceed last year's of peanuts, sugar cane, Irish and sweet potatoes, rice and tobacco; but somewhat smaller of corn, velvet beans, sorghum, and the amount of hay saved for winter feeding. The production of upland cotton promises to be above last year, or about twenty-two thousand bales. The estimate of the United States is about thirteen million bales.

REPORT OF CONDITION AND PROSPECTIVE YIELD OF CROPS, FRUIT AND FRUIT TREES FOR QUARTER ENDING SEPT 30, 1920, AS COMPARED WITH SAME PERIOD LAST YEAR.

COUNTY	*Alfalfa*		*Avocado Pears*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	..	..	..	..
Jackson	..	..	..	..
Okaloosa	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northern Division.				
Godsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	90	90	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Taylor	..	..	..	..
Div. Av. per cent.	90	90	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Bradford	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Nassau	..	..	..	..
Putnam	..	..	..	..
St. Johns	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent.	..	..	..	..
Central Division.				
Brevard	..	..	..	..
Citrus	..	..	..	..
Hillsborough	..	..	100	20
Lake	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	..	..	40	30
Pasco	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Div. Av. per cent.	..	..	70	25
Southern Division.				
Dade	..	..	110	105
DeSoto	100	100	..	..
Lee	..	..	90	85
Monroe	..	..	..	..
Okeechobee	..	..	..	..
Palm Beach	100	100	90	100
St. Lucie	..	..	90	110
Div. Av. per cent.	100	100	95	100
State Av. per cent.	95	95	82	62

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Bananas*		*Broom Corn*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	..	..	..	..
Jackson	..	..	..	..
Okaloosa	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Taylor	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Bradford	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Nassau	..	..	..	..
Putnam	..	..	..	..
St. Johns	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent.	..	..	..	..
Central Division.				
Brevard	90	90	..	..
Citrus	..	..	..	..
Hillsborough	90	50	..	..
Lake	..	..	..	..
Marion	..	..	..	..
Orange	100	100	..	..
Osceola	90	75	..	..
Pasco	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Div. Av. per cent.	92	79	..	..
Southern Division.				
Dade	100	100	..	..
DeSoto	100	90	105	105
Lee	80	80	..	..
Monroe	..	..	..	..
Okechobee	75	80	..	..
Palm Beach	..	..	..	..
St. Lucie	95	90	..	..
Div. Av. per cent.	90	88	105	105
State Av. per cent.	91	83	105	105

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	Cassava		Corn	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	100	120
Holmes	..	..	90	95
Jackson	..	..	100	100
Okaloosa	..	..	85	90
Santa Rosa	..	..	100	100
Walton	..	..	100	100
Div. Av. per cent.	..	..	96	101
Northern Division.				
Godsden	..	..	75	75
Hamilton	..	..	85	80
Jefferson	..	..	90	90
LaFayette	..	..	75	75
Leon	..	..	125	125
Madison	..	..	75	75
Taylor	..	..	75	85
Div. Av. per cent.	..	..	86	86
Northeastern Division.				
Alachua	..	..	75	75
Baker	..	..	80	80
Bradford	100	100	100	75
Clay	..	..	100	100
Columbia	..	..	100	100
Nassau	..	..	100	125
Putnam	100	100	75	75
St. Johns	..	..	75	70
Suwannee	..	..	60	50
Div. Av. per cent.	100	100	85	83
Central Division.				
Brevard	..	..	80	80
Citrus	..	..	90	75
Hillsborough	80	80	60	60
Lake	75	100	75	50
Marion	75	100	60	70
Orange	100	100	100	100
Osceola	15	40	60	50
Pasco	90	100	80	90
Polk	70	80	75	80
Seminole	..	..	90	90
Div. Av. per cent.	72	86	77	75
Southern Division.				
Dade	..	..	100	105
DeSoto	100	90	100	110
Lee	70	70	80	85
Monroe	..	..	..	..
Okeechobee	80	80	75	75
Palm Beach	..	..	100	150
St. Lucie	..	..	..	..
Div. Av. per cent.	83	80	91	105
State Av. per cent.	85	89	87	90

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Dasheens*		*Field Peas*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	80	100
Holmes	..	..	85	80
Jackson	..	..	..	..
Okaloosa	..	..	75	80
Santa Rosa	..	..	100	100
Walton	..	..	100	100
Div. Av. per cent.	..	..	88	92
Northern Division.				
Gadsden	..	..	100	100
Hamilton	..	..	100	100
Jefferson	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	90	90
Madison	..	..	80	80
Taylor	..	..	90	90
Div. Av. per cent.	..	..	92	92
Northeastern Division.				
Alachua	..	..	100	100
Baker	..	..	..	..
Bradford	90	80	100	100
Clay	..	..	80	80
Columbia	..	..	105	105
Nassau	100	110	90	85
Putnam	100	100	50	50
St. Johns	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent.	96	96	88	87
Central Division.				
Brevard	85	85	95	90
Citrus	..	..	90	100
Hillsborough	..	..	80	80
Lake	..	..	100	90
Marion	..	..	90	80
Orange	..	..	..	..
Osceola	..	..	75	75
Pasco	80	90	90	110
Polk	..	..	75	90
Seminole	..	..	..	..
Div. Av. per cent.	82	87	87	89
Southern Division.				
Dade	..	..	100	100
DeSoto	100	100	100	100
Lee	90	90	90	90
Monroe	..	..	..	..
Okeechobee	..	..	90	90
Palm Beach	100	300	100	100
St. Lucie	..	..	85	125
Div. Av. per cent.	96	163	94	101
State Av. per cent.	91	105	90	92

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Guavas*		*Grapes*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Y'e'd*
Escambia	. .	. .	100	100
Holmes	. .	. .	95	90
Jackson	. .	. .	. .	. .
Okaloosa	. .	. .	. .	. .
Santa Rosa	. .	. .	75	60
Walton	. .	. .	. .	. .
Div. Av. per cent.	. .	. .	90	83
Northern Division.				
Gadsden	. .	. .	. .	. .
Hamilton	. .	. .	. .	. .
Jefferson	. .	. .	. .	. .
LaFayette	100	100	75	75
Leon	. .	. .	. .	. .
Madison	. .	. .	. .	. .
Taylor	. .	. .	. .	. .
Div. Av. per cent.	100	100	75	75
Northeastern Division.				
Alachua	. .	. .	. .	. .
Baker	. .	. .	50	50
Bradford	. .	. .	100	100
Clay	. .	. .	100	100
Columbia	. .	. .	. .	. .
Nassau	. .	. .	100	100
Putnam	. .	. .	100	100
St. Johns	. .	. .	70	70
Suwannee	. .	. .	70	70
Div. Av. per cent.	. .	. .	84	84
Central Division.				
Brevard	. .	. .	60	60
Citrus	. .	. .	50	75
Hillsborough	100	100	80	80
Lake	75	75	. .	. .
Marion	. .	. .	60	60
Orange	200	200	100	100
Osceola	100	90	75	60
Pasco	100	120	100	110
Polk	80	80	75	60
Seminole	90	90	. .	. .
Div. Av. per cent.	. .	. .	75	76
Southern Division.				
Dade	100	105	. .	. .
DeSoto	90	95	. .	. .
Lee	95	100	80	80
Monroe	. .	. .	. .	. .
Okeechobee	90	90	. .	. .
Palm Beach	100	100	. .	. .
St. Lucie	100	100	100	100
Div. Av. per cent.	96	98	90	90
State Ac. per cent.	101	102	83	82

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Grape Fruit Trees*		*Japan Persimmons*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	..	..	..	..
Jackson	..	..	..	..
Okaloosa	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northeastern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	..	..	75	75
Leon	..	..	..	..
Madison	..	..	..	..
Taylor	..	..	..	..
Div. Av. per cent.	..	..	75	75
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	100	100
Bradford	..	..	100	100
Columbia	..	..	..	..
Nassau	..	..	100	90
Putnam	125	125	..	..
St. Johns	..	..	100	100
Suwannee	..	..	..	..
Div. Av. per cent.	125	125	100	98
Central Division.				
Brevard	80	85	..	..
Citrus	80	90	..	..
Hillsborough	100	58	50	50
Lake	90	75	..	..
Marion	90	60	..	..
Orange	100	90	100	100
Osceola	40	50	90	75
Pasco	50	70	..	..
Polk	75	55	75	70
Seminole	85	85	..	..
Div. Av. per cent.	79	71	79	73
Southern Division.				
Dade	90	95	..	..
DeSoto	90	65	..	..
Lee	75	60	75	75
Monroe	..	..	..	..
Okeechobee	80	80	70	75
Palm Beach	95	100	..	..
St. Lucie	95	85	..	..
Div. Av. per cent.	86	82	72	75
State Av. per cent.	97	93	81	80

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Japanese Cane for Forage*		*Kaffir Corn*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	85	85	..	..
Jackson	..	..	..	..
Santa Rosa	100	100	..	..
Okaloosa	100	100	..	..
Walton	100	100	..	..
Div. Av. per cent	96	96	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	100	100	..	..
Leon	100	100	..	..
Madison	..	..	..	..
Taylor	100	100	..	..
Div. Av. per cent	100	100	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Bradford	100	100	..	..
Clay	100	100	..	..
Columbia	..	..	..	..
Nassau	110	125	90	80
Putnam	100	100	..	..
St. Johns	..	..	..	..
Suwannee	95	90	..	..
Div. Av. per cent	101	103	90	80
Central Division.				
Brevard	..	..	..	..
Citrus	..	..	..	..
Hillsborough	80	80	..	..
Lake	75	75	..	..
Marion	95	110	..	..
Orange	100	100	100	100
Osceola	20	30	45	60
Pasco	100	110	100	100
Polk	80	80	..	..
Seminole	80	80	..	..
Div. Av. per cent	79	83	82	87
Southern Division.				
Dade	..	..	..	..
DeSoto	100	100	100	100
Lee	75	75	60	60
Monroe	..	..	..	..
Okeechobee	85	90	..	..
Palm Beach	100	100	..	..
St. Lucie	100	100	..	..
Div. Av. per cent	92	93	80	80
State Av. per cent	94	95	84	82

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Lemon Trees*		*Lime Trees*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	..	..	..	..
Jackson	..	..	..	..
Okaloosa	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Taylor	..	..	..	..
Div. Av. per cent	..	..	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Bradford	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Nassau	..	..	..	..
Putnam	..	..	..	..
St. Johns	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent	..	..	..	..
Central Division.				
Brevard	60	60	50	50
Citrus	..	..	..	..
Hillsborough	90	90	90	90
Lake	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	90	75	90	60
Pasco	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Div. Av. per cent	80	75	77	67
Southern Division.				
Dade	..	..	100	100
DeSoto	90	100	80	95
Lee	90	80	85	75
Monroe	..	..	100	100
Okeechobee	90	100	75	75
Palm Beach	75	75	50	50
St. Lucie	..	..	90	80
Div. Av. per cent	86	89	83	82
State. Av. per cent	83	82	80	74

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Mangoes*		*Milo Maize*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	..	..
Holmes	..	..	..	..
Jackson	..	..	..	..
Okaloosa	..	..	..	..
Santa Rosa	..	..	..	..
Walton	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	..	..
Jefferson	..	..	..	..
LaFayette	..	..	..	..
Leon	..	..	..	..
Madison	..	..	..	..
Taylor	..	..	..	..
Div. Av. per cent.	..	..	..	..
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	..	..
Bradford	..	..	..	..
Clay	..	..	..	..
Columbia	..	..	..	..
Nassau	..	..	..	..
Putnam	..	..	..	..
St. Johns	..	..	..	..
Suwannee	..	..	..	..
Div. Av. per cent.	..	..	..	..
Central Division.				
Brevard	..	..	..	..
Citrus	..	..	..	..
Hillsborough	100	25	..	..
Lake	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	..	..	..	..
Pasco	..	..	..	..
Polk	..	..	..	..
Seminole	..	..	..	..
Div. Av. per cent.	100	25	..	..
Southern Division.				
Dade	105	110	100	100
DeSoto	100	100	..	..
Lee	60	60	70	70
Monroe	..	..	..	..
Okeechobee	..	..	..	..
Palm Beach	..	..	..	..
St. Lucie	..	..	..	..
Div. Av. per cent.	88	90	85	85
State Av. per cent.	94	57	85	85

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Native Hay Grass*	*Natal Grass*	*Orange Trees*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	100	. .	90	75
Holmes	100	. .	. .	. .
Jackson	100	. .	. .	. .
Okaloosa	. .	. .	. .	. .
Santa Rosa	100	. .	. .	. .
Walton	100	. .	85	90
Div. Av. per cent	100	. .	87	82
Northern Division.				
Gadsden	100	. .	. .	. .
Hamilton	90	. .	. .	. .
Jefferson	. .	. .	. .	. .
LaFayette	100	. .	. .	. .
Leon	150	. .	. .	. .
Madison	105	105	100	100
Taylor	100	. .	75	65
Div. Av. per cent	108	105	87	82
Northeastern Division.				
Alachua	100	. .	. .	. .
Baker	100	. .	90	90
Bradford	100	. .	50	60
Clay	90	85	90	100
Columbia	. .	. .	. .	. .
Nassau	90	. .	. .	. .
Putnam	150	. .	100	125
St. Johns	100	. .	100	100
Suwannee	. .	. .	. .	. .
Div. Av. per cent	104	85	86	95
Central Division.				
Brevard	. .	. .	75	75
Citrus	80	75	70	80
Hillsborough	60	. .	100	90
Lake	50	75	90	75
Marion	95	90	90	120
Orange	100	100	120	140
Osceola	95	30	90	90
Pasco	100	. .	95	110
Polk	. .	75	125	125
Seminole	90	80	85	85
Div. Av. per cent	71	75	94	99
Southern Division.				
Dade	100	. .	100	100
DeSoto	100	100	90	75
Lee	98	95	90	80
Monroe	. .	. .	. .	. .
Okeechobee	100	80	75	75
Palm Beach	. .	. .	95	95
St. Lucie	90	95	95	100
Div. Av. per cent	98	93	91	88
State Av. per cent	96	89	89	89

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Peanuts*		*Pastures*
Western Division.	*Condition*	*Prospective Yield*	*Condition*
Escambia	90	110	100
Holmes	90	85	100
Jackson	100	110	..
Okaloosa	65	70	100
Santa Rosa	100	100	100
Walton	90	90	100
Div. Av. per cent.	89	94	100
Northern Division.			
Gadsden	90	90	100
Hamilton	100	100	100
Jefferson	90	100	100
LaFayette	100	100	100
Leon	100	100	100
Madison	100	100	100
Taylor	85	85	100
Div. Av. per cent.	95	96	101
Northeastern Division.			
Alachua	90	90	100
Baker	100	100	100
Bradford	100	100	90
Clay	85	75	90
Columbia	110	110	100
Nassau	100	125	125
Putnam	100	125	125
St. Johns	100	100	100
Suwannee	95	95	90
Div. Av. per cent.	98	102	102
Central Division.			
Brevard	..	..	..
Citrus	85	90	..
Hillsborough	100	100	75
Lake	75	75	100
Marion	85	100	95
Orange	..	..	100
Osceola	60	50	80
Pasco	95	110	100
Polk	80	85	80
Seminole	90	90	90
Div. Av. per cent.	84	88	90
Southern Division.			
Dade	100	100	..
DeSoto	100	100	100
Lee	85	85	85
Monroe	..	..	..
Okeechobee	25	25	..
Palm Beach	100	100	95
St. Lucie	..	..	85
Div. Av. per cent.	82	82	91
State Av. per cent.	90	92	97

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued

COUNTY	*Rice*		*Rhodes Grass*
Western Division.	*Condition*	*Prospective Yield*	*Condition*
Escambia	..	..	..
Holmes	85	80	..
Jackson	..	..	..
Okaloosa	90	90	..
Santa Rosa	90	95	..
Walton	100	100	..
Div. Av. per cent	91	91	..
Northern Division.			
Gadsden	..	..	..
Hamilton	100	100	..
Jefferson	90	95	..
LaFayette	100	100	..
Leon	110	110	..
Madison	..	..	..
Taylor	75	75	..
Div. Av. per cent	95	96	..
Northeastern Division.			
Alachua	85	85	..
Baker	125	125	..
Bradford	90	90	..
Clay	90	90	..
Columbia	100	100	..
Nassau	100	90	..
Putnam	75	75	..
St. Johns	125	115	..
Suwannee	60	60	..
Div. Av. per cent	94	94	..
Central Division.			
Brevard	..	..	..
Citrus	75	100	..
Hillsborough	80	80	..
Lake	..	..	..
Marion	85	100	..
Orange	..	..	..
Osceola	90	90	..
Pasco	95	100	..
Polk	70	65	..
Seminole	..	..	..
Div. Av. per cent	83	89	..
Southern Division.			
Dade	..	..	..
DeSoto	100	115	100
Lee	85	85	80
Monroe	..	..	..
Okeechobee	80	80	..
Palm Beach	..	..	..
St. Lucie	..	..	..
Div. Av. per cent	88	93	90
State Av. per cent	90	93	90

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Sea Island Cotton*		*Sugar Cane*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	100	100
Holmes	..	..	90	90
Jackson	..	..	90	90
Okaloosa	..	..	90	90
Santa Rosa	..	..	100	100
Walton	..	..	100	100
Div. Av. per cent.	..	..	95	95
Northern Division.				
Gadsden	..	..	90	125
Hamilton	75	75	100	100
Jefferson	..	..	80	90
LaFayette	90	90	85	85
Leon	..	..	100	100
Madison	80	80	100	100
Taylor	85	85	85	85
Div. Av. per cent.	82	82	91	98
Northern Division.				
Alachua	..	..	90	90
Baker	100	90	125	125
Bradford	..	..	100	100
Clay	75	60	115	115
Columbia	125	125	100	100
Nassau	100	75	125	125
Putnam	100	100	100	100
St. Johns	..	..	105	100
Suwannee	50	45	90	90
Div. Av. per cent.	92	66	105	105
Central Division.				
Brevard	..	..	70	70
Citrus	..	..	100	100
Hillsborough	75	75	60	60
Lake	..	..	90	125
Marion	..	..	80	100
Orange	..	..	100	100
Osceola	..	..	90	100
Pasco	..	..	90	90
Polk	..	..	75	75
Seminole	..	..	95	95
Div. Av. per cent.	75	75	85	91
Southern Division.				
Dade	..	..	100	200
DeSoto	..	..	90	110
Lee	..	..	90	90
Monroe	..	..	..	..
Okeechobee	..	..	90	90
Palm Beach	..	..	100	150
St. Lucie	..	..	..	..
Div. Av. per cent.	..	..	94	108
State Av. per cent.	83	74	94	99

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Sorghum*		*Sweet Potatoes*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	100	100	100	100
Holmes	85	80	95	95
Jackson	..	..	100	110
Okaloosa	95	90	90	100
Santa Rosa	100	100	100	100
Walton	..	..	100	100
Div. Av. per cent.	95	92	98	101
Northern Division.				
Gadsden	80	75	90	100
Hamilton	..	..	100	100
Jefferson	..	..	85	90
LaFayette	..	..	100	100
Leon	100	100	100	100
Madison	100	100	110	110
Taylor	100	100	90	90
Div. Av. per cent.	95	94	96	99
Northeastern Division.				
Alachua	..	..	100	100
Baker	..	..	150	150
Bradford	100	100	100	100
Clay	100	100	110	110
Columbia	100	100	105	105
Nassau	100	110	75	100
Putnam	..	..	80	80
St. Johns	..	..	150	150
Suwannee	80	80	90	80
Div. Av. per cent.	96	98	107	108
Central Division.				
Brevard	..	..	80	80
Citrus	..	..	100	100
Hillsborough	..	..	100	100
Lake	..	..	90	100
Marion	90	125	85	100
Orange	..	..	110	110
Osceola	15	15	75	60
Pasco	..	..	100	100
Polk	..	..	80	75
Seminole	95	95	90	90
Div. Av. per cent.	67	78	91	92
Southern Division.				
Dade	..	..	100	95
DeSoto	100	90	100	105
Lee	80	80	80	80
Monroe	..	..	..	..
Okeechobee	..	..	75	75
Palm Beach	..	..	90	100
St. Lucie	..	..	85	95
Div. Av. per cent.	90	85	88	92
State. Av. per cent.	89	89	96	98

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

COUNTY	*Soy Beans*		*Upland Cotton*	
Western Division	*Condition*	*Prospective Yield*	*Condition*	*Prospective Yield*
Escambia	..	..	75	25
Holmes	..	..	40	35
Jackson	..	..	100	110
Okaloosa	..	..	35	60
Santa Rosa	..	..	40	50
Walton	..	..	50	50
Div. Av. per cent.	..	..	57	55
Northern Division.				
Gadsden	..	..	..	..
Hamilton	..	..	100	90
Jefferson	..	..	60	60
LaFayette	..	..	90	90
Leon	..	..	60	50
Madison	..	..	80	80
Taylor	..	..	75	70
Div. Av. per cent.	..	..	78	73
Northeastern Division.				
Alachua	..	..	..	..
Baker	..	..	150	150
Bradford	..	..	40	30
Clay	..	..	50	50
Columbia	120	120	130	130
Nassau	100	90	100	75
Putnam	..	..	..	..
St. Johns	..	..	..	..
Suwannee	..	..	50	50
Div. Av. per cent.	110	105	87	82
Central Division.				
Brevard	..	..	..	..
Citrus	..	..	..	..
Hillsborough	..	..	..	..
Lake	..	..	..	..
Marion	..	..	..	..
Orange	..	..	..	..
Osceola	40	20	..	..
Pasco	..	..	..	..
Polk	85	80	..	..
Seminole	..	..	..	..
Div. Av. per cent.	62	65	..	..
Southern Division.				
Dade	..	..	..	..
DeSoto	..	..	..	..
Lee	..	..	..	..
Monroe	..	..	..	..
Okeechobee	..	..	15	15
Palm Beach	..	..	..	..
St. Lucie	..	..	..	..
Div. Av. per cent.	..	..	15	15
State Av. per cent.	86	77	59	56

REPORT OF CONDITION AND PROSPECTIVE YIELD—Continued.

		Velvet Beans	
Western Division		*Condition*	*Prosp'tive Yield*
Escambia	100	100	..
Holmes	100	100	..
Jackson	110	120	..
Okaloosa	100	100	..
Santa Rosa	100	100	..
Walton	100	100	..
Div. Av. per cent	101	103	..
Northern Division.			
Gadsden	100	100	..
Hamilton	100	100	..
Jefferson	90	95	..
Lafayette	100	100	..
Leon	100	100	..
Madison	100	100	..
Taylor	75	75	..
Div. Av. per cent	95	96	..
Northeastern Division.			
Alachua	100	100	..
Baker	100	100	..
Bradford	100	100	..
Clay	110	110	..
Columbia	110	110	..
Nassau	125	125	..
Putnam	100	100	..
St. Johns	100	100	..
Suwannee	95	95	..
Div. Av. per cent	105	105	..
Central Division.			
Brevard	75	75	..
Citrus	..	..	..
Hillsborough	100	100	..
Lake	100	100	..
Marion	95	90	..
Orange	100	100	..
Osceola	85	75	..
Pasco	100	100	..
Polk	75	75	..
Seminole	90	90	..
Div. Av. per cent	91	89	..
Southern Division.			
Dade	100	100	..
DeSoto	100	100	..
Lee	85	85	..
Monroe	..	..	..
Okeechobee	100	100	..
Palm Beach	..	..	..
St. Lucie	90	90	..
Div. Av. per cent	95	95	..
State Av. per cent	97	98	..

PART III.

1. Florida Oysters, Regulations for Packing and Shipping.
2. Saccharin, a Prohibited Drug, Substituted for Sugar.
3. Commercial Values of Fertilizers and Feeds.
4. Analyses of Fertilizers, Feeds, and Gasolines.

METHODS OF HANDLING APALACHICOLA OYSTERS.

A. M. Henry.

The oysters are all gathered from the numerous beds, or bars, in Apalachicola Bay, which are from one to twelve miles from Apalachicola. The oysters are all gathered by means of hand tongs. It takes a boat from one to three days to gather a load of oysters, depending on the size of the boat, weather conditions and the quantity or quality of the oysters on the various bars visited. During the present season, 1918-19, the oysters have been unusually poor and variable in quality. As many as twelve bars may be visited before obtaining a load, although very often the boat obtains its load at the first bar. After being unloaded it may be as long as three days before the oysters are all shucked. Thus an oyster may be out of the water from a few hours to a week before it is shucked.

The shucking houses are equipped with a number of stalls for the shuckers, a strainer for draining the oysters before measurement, a skimmer for washing them on, galvanized and tin containers for cooling and shipping, and a refrigerator for keeping the shucked stock in; and all the houses are supplied with city water, which on analysis in 1909 showed 0.0519 per cent. of mineral matter, mostly salt. The strainer and skimmer are constructed of galvanized material with holes about 0.5 inch in diameter and about 2 inches apart. The sanitary conveniences of the houses are all similar, and while not exemplary are not objectionable; although the practices of the workers could be greatly improved from a sanitary viewpoint. Each shucker is equipped with a gallon bucket, a thin-bladed knife, a hammer, and a breaking block.

The shucker breaks off the edge of the shell at the end opposite the hinge with the hammer on the breaking block and after cutting the muscle from the shell with the knife, he drops the oyster in the gallon bucket, which has been filled about a quarter full of tap water before beginning. When the bucket is full of oysters the shucker pours them on the strainer, where they are drained for a few seconds and are measured in a gallon cup; from which they are poured on the skimmer, where they are washed with a stream of water from one to three minutes. Up to this point the method is the same for all the shucking houses, but from here the procedure differs.

The best method of handling from this point is in use by only one house. Here the oysters are run from the skimmer into five-gallon tin containers that are packed away in cracked ice in the refrigerator in order to thoroughly chill until the next day or longer. They are prepared for shipment from the refrigerator by draining for a short time in a galvanized colander dipper with perforations about 0.2 inch in diameter and 0.5 inch apart in order to free them from the separated liquor. The oysters are then packed in the five-gallon one-way container and put in the shipping crate, which is well iced. The lid of the tin container is fastened on by driving nails through the rim of the lid and the top of the can. Another house uses the same procedure except the oysters are cooled by being put in large galvanized tubs, capacity about twenty gallons, which are placed on blocks of ice in the refrigerator.

The remainder of the houses run the oysters from the skimmer into large galvanized containers and chill by putting blocks of ice, twenty to fifty pounds, in the container with the oysters. These containers may then be left in the shucking room or put in the refrigerator. If these blocks of ice melt before the oysters are to be packed for shipment more ice is added. The oysters are stirred up several times during the day in order that all may come in contact with the ice. Some of the firms ship the same day the oysters are shucked, so that the oysters are not in contact with the ice and water longer than ten hours and usually not longer than four or five hours. One house states that on cold days no ice is used. A number of the houses may keep the oysters in the tubs with ice for four or five days. One house has a subsidiary about eight miles from Apalachicola, where the sanitary conditions are deplorable and sewerage contaminated water is used for putting into the containers into which the oysters are shucked. These oysters are not washed here, but are put into galvanized containers and carried to

Apalachicola by auto at the end of the day. There cracked ice is added to the oysters and allowed to remain in contact with the ice and water until the afternoon of the next day.

The shipping containers are all supposed to be water tight. The containers used are five and ten-gallon galvanized returnable containers and one, three and five-gallon supposedly non-returnable tin containers. The shucking houses and also the agent of the express company complains that these containers are returned unnecessarily dirty. The non-returnable tin containers are used repeatedly by some houses and as they are fastened by driving nails through the side of the can and the lid, after the first time there are a number of holes through which the separated liquor from the oysters can leak out and water from the melted ice leak into the container. The agent of the express company complained that the firms using the tin containers were continually making claims for shortage caused by the leakage of the separated liquor through these nail holes in the can and also possibly by the nails working out and allowing the lid to come off and spill the oysters and liquor.

Apalachicola Bay is almost landlocked and has only three narrow outlets into the Gulf of Mexico with the Apalachicola River flowing into the north side of the Bay. The Apalachicola River is a typical southern stream, bringing down red clayey mud from its head waters with tributaries near its mouth of clear blue limestone streams and the dark brown streams red with organic matter from sandy soils and swamps. Owing to these facts and the additional fact that floods in the river occur at no particular or regurlar season; the water in Apalachicola Bay is very variable. Samples of water have been taken from over a certain bar at similar tide conditions at the same season of the year that varied from 0.13 to 4.22 per cent. of salt. Likewise samples of oysters taken from this bar under similar conditions as the water samples have varied from 0.01 to 2.67 per cent. salt and 13.87 to 24.84 per cent. total solids. There is also a big variation in the composition of the oysters on the different bars owing to the amount of foods brought by the currents and the variation in the variety of oyster. Samples of oysters from the different bars taken at the same time have varied from 16.54 to 24.84 per cent. of total solids.

The following table of analyses of samples of oysters from the packing houses show difference in the methods of handling.

NO.	DESCRIPTION OF SAMPLE.	MEATS			LIQUOR		Composite
		Loss on Boiling	Per Cent.	Total Solids	Per Cent.	Total Solids	Total Solids
2316	Samples taken immediately after commer-	63.7	80.12	11.39	19.88	3.57	9.84
2322	cial washing	63.0	78.51	11.24	21.49	3.22	9.42
	Average	63.4	79.32	11.32	20.68	3.40	9.63
2317	Samples of above after 24 hours in re-	61.2	89.48	11.99	10.52	4.00	11.15
2323	frigerator and drained	61.6	88.25	14.08	11.75	5.32	13.05
	Average	61.4	88.87	13.04	11.13	4.66	12.10
2326	Samples taken immediately after commer-	62.2	75.54	10.55	24.46	2.96	8.69
2330	cial washing	63.9	75.94	10.58	24.06	3.10	8.36
2310		58.6	75.84	15.00	24.16	3.09	12.12
	Average	61.6	75.77	12.03	24.23	3.05	9.89
2327	Samples of above after 4 hours soaking	64.0	66.60	9.32	33.40	2.50	7.04
2331	with water and drained	62.8	77.26	11.67	22.74	2.76	9.64
2311		56.7	85.12	13.17	14.88	3.29	11.70
	Average	61.2	76.33	11.39	23.67	3.18	9.46
2324	Samples taken immediately after commer-	62.6	77.90	10.32	22.10	2.67	8.63
2332	cial washing	61.8	84.30	13.51	15.70	3.75	11.98

ANAYLSIS OF SAMPLES OF SAMPLES OF OYSTERS—(Continued.)

NO	DESCRIPTION OF SAMPLE.	MEATS.			LIQUOR.		Composite.
		Losson on Boiling	Per Cent.	Total Solids	Per Cent.	Total Solids	Total Solids
2328		62.6	76.13	10.28	23.87	2.55	8.43
2318		46.6	87.40	15.47	12.60	4.42	14.07
2312		60.8	77.46	11.30	22.54	3.30	9.50
	Average	58.9	80.64	12.18	19.36	3.53	10.52
2325	Sampes of above after 24 hours' soaking	66.3	78.07	9.55	21.93	2.72	8.55
2333	with water and ice and drained	71.6	81.14	8.48	18.86	2.51	7.35
2329		61.9	73.64	10.39	26.36	2.72	8.12
2319		51.3	78.35	14.83	21.65	3.84	12.46
2313		60.9	73.29	10.02	26.71	2.84	8.23
	Average	62.4	76.90	10.45	23.10	2.93	8.84

As shown by the above analyses where no ice or water was added to the oysters after washing and the oysters were kept over night so that the water from washing and the leakage of the oyster could separate; the average amount of liquor in the stock prepared for sale at the time it would have been ready for consumption was 11.13 per cent. after standing in contact with ice for four hours 23.67 per cent.; and after standing in contact with ice for one day 23.10 per cent. Doubtless the amount of draining at the time of preparing for sale influenced the liquor content considerably.

However, it is possible, and is being done commercially, to ship Apalachicola oysters that will not contain more than 15 per cent. of free liquor.

The per cent of total solids in the meat of the oysters after commercial preparation and washing, standing over night and draining of free liquor, varied from 10.09 to 15.00 per cent.; while some that had stood in contact with ice and water were as low as 8.48 per cent. The washed oysters on standing over night gave a gain of 15 per cent. in the amount of solids in the meats; while the washed oysters on standing in contact with ice and water for four hours lost 6 per cent. of the solids in the meats and on standing in contact with ice and water for one day the loss in solids in the meats was 14 per cent. The wide variation in the per cent. of total solids in the meats shows that this data does not give any indication about the treatment of the oysters; but the difference in letting the oysters stand in contact with ice and water and without ice and water certainly shows that this causes the adulteration of the oysters by the addition of water which shows up in the excess of free liquor usually after shipment. On account of the extreme freshness of the water and oysters when the lot of samples was taken no leaching of the contents of the oyster is shown, but would doubtless have been shown had the oysters contained the normal amount of salt. When figured on the basis of total solids in the whole lot of meats and liquor this shows up more surprisingly as the gain in solids on standing without ice for a day is 39 per cent. while standing in contact with ice the loss is 16 per cent.

In the way of improvements it is suggested that more attention be paid to the sanitary practices of the shuckers, that a perforated bucket be used for shucking into instead of a bucket with fresh water in it. On account of the variability of the water on the beds the use of tap water for washing is not objectionable. Experiments have shown that the loss in solids of the oysters by the present methods of washing varies from almost nothing up to 5 per cent. However, it is suggested that the washing be as short as possible to cleanse the oyster and the water be as cold as practicable to make it. It is suggested that all cans before shipment be sealed, that the one-way tin container be used altogether and not be returned. Until the use of the galvanized shipping container is discontinued it is suggested that better methods of cleaning and sterilizing it be adopted by the shucking houses and it is also recommended that this association adopt a resolution asking the Railroad Administration and the American Railway Express Company to require that all returnable containers of oysters as well as milk and cream, be required to be thoroughly cleansed before being returned to the original shipper.

April 1, 1919.

OFFICE COMMISSIONER OF AGRICULTURE, TALLAHASSEE, FLORIDA.

September 15, 1920.

At a conference of the National and Florida Food and Drugs Officials held in the office of the Commissioner of Agriculture at Tallahassee on the 9th. instant, it was decided to adopt proper uniform methods of preparing for shipment Florida oysters and to inaugurate plans for the prevention of the shipment of adulaterated or poluted oysters in order to comply with the National and Florida Food and Drug Laws, Rules and Regulations governing the shipment and sale of oysters.

At this conference it was decided that a convention be called of all individuals, companies and corporations interested in the packing, preparing for sale or shipment, or the shipment or transportation of oysters in interstate or intrastate commerce, to meet for consultation and instruction in accordance with National and State Laws governing the packing and shipment of oysters and to prevent the shipment or sale of adulterated or poluted oysters.

THEREFORE, for the purpose of such consultation and instruction in order to preserve the reputation of Florida oysters for excellence of quality and freedom from polution or adulteration, and to protect the industry from the sale or shipment of adulterated or poluted oysters, a convention of all parties interested in the gathering, packing, shipment or transportation of oysters in interstate or intrastate commerce is hereby called to meet in the office of the Commissioner of Agriculture at Tallahassee, Florida, at 10 o'clock a. m. on Tuesday, October 5, 1920.

Representatives of the following are requested to be present:

All individuals, firms or corporations in Florida packing or shipping oysters.

The United States Bureau of Chemistry.

The Florida Food and Drug Control Officials.

The Florida Food and Drug Inspectors.

The Florida State Board of Health.

City Health Officers.

Inspectors of State and City Health Departments.

The State Shell Fish Commissioner.

Deputy State Shell Fish Commissioners from the oyster-bearing areas of the State.

The Express Companies transporting fish and oysters.

It is earnestly requested that representatives of all the above—packers or shippers, food and drug officials, State and city health officers, State and city food inspectors and express companies—be present in order that the law, rules and regulations may be fully discussed and explained. Proper methods of packing and transporting will be explained in order that the National and State Laws may be complied with and that adulterated or poluted oysters may not be packed or shipped contrary to law, and to the detriment of the industry.

W. A. McRAE,
Commissioner of Agriculture.

SACCHARIN
A DRUG PROHIBITED BY NATIONAL AND STATE FOOD AND DRUG LAWS BEING SUBSTITUTED FOR SUGAR IN FLORIDA.

By A. M. Henry.

Saccharin, a deleterious and harmful coal tar drug, owing to the high price of sugar recently and the cupidity of the manufacturers of saccharin, has been substituted for sugar in numerous kinds of sweet foods by a considerable number of manufacturers of such foods. Soda fountains, bottlers of soft drinks, ice cream manufacturers, candy makers and bakeries have been the principal offenders using saccharin in place of sugar in such goods as soft drinks, ice cream, candies, pies, cakes and numerous other articles of sweet food. Owing to the perishable nature of such foods the local manufacturer, who purchases saccharin from the jobber or manufacturer of saccharin under a false statement that it is lawful to use it, has been made the sufferer along with the consumer, who not only is cheated out of the food value of the sugar for which the saccharin is substituted but is also given a dose of a harmful and deleterious coal tar drug at the same time.

The following remarks by Dr. Charles H. LaWall, Chemist of the Pennsylvania Food and Drug Department, are very apropos:

"Saccharin in foodstuffs has only one argument in its favor, i e., it cheapens the cost of production. This, however, is no advantage to the consumer, for when it is used in canned foods the goods are sold at no lower price at retail, with the exception of one product alone, and that is the bottled soft drinks or cheap sodas and 'pops.' So far as these products are concerned, I think their very cheapness makes them doubly dangerous, and feel sure that many cases of sickness in the poorer districts of the city are caused by this same saccharin in the soft drinks which are so freely consumed there. As authority for this opinion I would refer you to Dr. Edwin Rosenthal, of 517 Pine street, who has an extensive medical practice in the section of the city where these adulterated soft drinks are largely sold and who has upon more than one occasion expressed himself emphatically as unhesitatingly condemning them.

"Saccharin is a synthetic or artificial product made from toluene, one of the fractions of coal tar. This fact alone need not necessarily be taken as an argument for its condemnation, but it is quoted to show that it has no chemical relationship nor anything in common with sugar, for which it is used as a substitute. Chemically it is known by the terrifying name of orthosulphamidobenzoic anhydride, and the history of its discovery, or rather the discovery of its intense sweetness, which was purely accidental, is one of the most interesting in chemical literature.

"Saccharin, besides being a sweetener of 550 times the intensity of sugar, is a substance having a marked preservative action, and thus fulfills a double function, which makes it all the more desirable to use, from the standpoint of those manufacturers who *look to profits regardless of the health* of the individuals who consume their wares. As an *antiferment,* or *preservative,* it is credited with being *more harmful* than sodium benzoate, salicylic acid, or *even sulphurous acid.*

"When used it not only exerts a *detrimental influence* upon certain functions of the body, but it cheats the organisms out of a *valuable food product—sugar. Sugar has a high and definite food value; saccharin has none.* Therefore the use of saccharin in food products cheats the consumer out of a valuable constituent which the system craves and to which he is justly entitled.

"A number of European chemists and physiologists have investigated this subject thoroughly and have *reported adversely* concerning its action. *Dujardin Beaumetz states*: 'The use of saccharin in foods presents a *danger to the public health.* Saccharin is *not a food, but a medicine.*' The committee of the Seine Council expressed the same opinion. Sollman, a well-known American authority, states: 'Saccharin has the properties of the coal-tar group, and is therefore *antiseptic and irritant.* It is sometimes given in fermentative dyspepsia. Its long-continued use *interferes with digestion,* and may lead *to nephritis* (*kidney disease*).

"Mathews and McGuigan state that 'saccharin acts as a *protoplasmic poison and restrains* the *salivary and pancreatic ferments.'*

"Based upon the results of the many investigations which have been made, and for the purpose of controlling or prohibiting its use in food products, *France, Italy and Portugal prohibit its importation,* the academies of Madrid and Rio de Janeiro declare its addition to *foods* a *dangerous adulteration,* and its importation into Belgium has been restricted.

"While it has been largely used as an artificial sweetener by diabetic patients who dare not take sugar, it is *always used under the advice and control of a physician,* and that they (physicians) are beginning to question the advisability of even such a limited use is shown by the fact that in the recently published edition of the *Physicians Manual of the United States Pharmacopoeia and National Formulary* this statement appears: *'Saccharin should be used, if at all, with care.'* If physicians must be careful in using it, it certainly cannot be a safe article to permit the use of in food products.

"Finally, the *Referee Board,* the same body which permitted the use of sodium benzoate in foods, in April, 1911, decided *against the advisability of permitting the use of saccharin in foods.* The U. S. Department of Agriculture, therefore, has issued decisions to the effect that while saccharin may be used in food *especially prepared for diabetics, and as a drug, it is not permissible to use in ordinary food products even when declared upon the label."*

The use of saccharin in foods is prohibited by both the National and Florida Food and Drug Laws by the following provision which is identical in both laws:

"In Case of Food—If it contains any added poisonous or other added deleterious ingredient which may render such article injurious to health."

Under the National Food and Drugs Law the following regulation has been adopted by the Secretaries of Agriculture, Treasury and Commerce and Labor:

"It having been determined that saccharin mixed with food is an added poisonous and deleterious ingredient such as is contemplated by the Act, and also that the substitution of saccharin for sugar in foods reduces and lowers their quality, the Secretary of Agriculture will regard as adulterated unde the food and drugs act foods containing saccharin which, on or after April 1, 1912, are manufactured or offered for sale in the District of Columbia or territories or shipped in interstate or foreign commerce ,or offered for importation into the United States."

Under the Florida Food and Drugs Law the following regulation has been adopted by the Commissioner of Agriculture and State Chemist:

"It having been determined that saccharin mixed with food is an added poisonous and deleterious ingredient such as is contemplated by the Act, and also that the substitution of saccharin for sugar in foods reduces and lowers their quality, foods containing saccharin are adulterated under the Pure Food and Drugs Law."

Samples of foods taken from the following dealers and manufacturers have been found to be adulterated by the addition of saccharin and consequently in violation of either or both the National and Florida Food and Drugs Laws. In no case has the dealer or manufacturer exhibited a guaranty signed by the wholesaler, jobber, manufacturer or other party residing in the State of Florida from whom he purchased such article to the effect that the same is not adulterated or misbranded within the meaning of the Food and Drugs Law, designating it, which is necessary to protect himself and his goods from prosecution under the law. The National Law has a similar provision for the protection of the innocent dealer who avails himself of it by requiring the signed guaranty from the person from whom he purchases. The verbal or printed assurance of the agent is no protection to the dealer or manufacturer of adulterated or misbranded goods.

Name and Address of Dealer.	Class of Product.
Key West Bottling Co., Key West	Bottled soft drinks
Cola-Nip Bottling Co., Miami	Bottled soft drinks
Pinapa Bottling Works, Miami	Bottled soft drinks.
Coca-Cola Bottling Co., Sanford	Bottled soft drinks
Lime-Cola Bottling Co., Quincy	Bottled soft drinks
Bra-Nola Bottling Co., Milton	Bottled soft drinks
Chero-Cola Bottling Co., Tallahassee	Bottled soft drinks
Bay Bottling Works, Panama City	Bottled soft drinks
Lime-Cola Bottling W'ks, Pensacola	Bottled soft drinks
Gainesville B'tling W'ks, Gainesville	Bottled soft drinks
Coca-Cola Bottling Co., Titusville	Bottled soft drinks
Lake City Bottling Co., Lake City	Bottled soft drinks
A. Lucignani, Key West	Fountain soft drinks
First Street Drug Store, Miami	Fountain soft drinks
Palm Parlor, Gainesville	Fountain soft drinks
City Pharmacy, Jasper	Fountain soft drinks
Joes Smoke House, Sanford	Fountain soft drinks
Orlando Pharmacy, Orlando	Fountain soft drinks
Nethel Ice Cream Parlor, Key West	Ice cream
Stiting Ice Cream Co., Daytona	Ice cream
Dywer's Bakery, Lakeland	Bakery products
LaFayette Candy Co., Tampa	Candies
Yates Grocery Co., Tallahassee	Honey Boy Cordial
Pendleton & Collins, Tallahassee	Honey Boy Cordial
Tallahassee Fruit and Grocery Co., Tallahassee	Honey Boy Cordial
Capital City Grocery Co., Tallahassee	Honey Boy Cordial
Geo. Shaheen, Tallahassee	Crown Red Grape Beverage

TALLAHASSEE, FLA., Oct. 1, 1920.

In addition to the foreging compiled by A. M. Henry, Food and Drug Analyst, I add the following taken from the report of the hearing before the Secretary of Agriculture, the Secretary of the Treasury and the Secretary of Commerce and Labor, issued December 16, 1911.

Conclusions of the Referee Board of Consulting Scientific Experts.

"The conclusions reached as a result of the individual investigations are given in detail in the separate reports herewith presented, together with all of the data upon which these conclusions are based.

"The main general conclusions reached by the Referee Board are as follows:

(1) Saccharin in small quantities (0.3 gram per day or less) added to the food is wothout deleterious or poisonous action and is NOT INJURIOUS TO THE HEALTH OF NORMAL ADULTS, so far as is ascertainable by available methods of study.

(2) Saccharin in large quantities (over 0.3 GRAM per day, and ESPECIALLY ABOVE 1 GRAM DAILY) added to the food, if taken for considerable periods of time (especially after months), IS LIABLE TO INDUCE DISTURBANCES OF DIGESTION.

(3) The admixture of saccharin with food in small or large quantities has not been found to alter the quality or strength of the food. It is obvious, however, that the ADDITION OF SACCHRIN TO FOOD as a substitute for cane sugar or some other form of sugar MUST BE REGARDED AS A SUBSTITUTION INVOLVING A REDUCTION IN THE FOOD VALUE of the sweetened product, and HENCE AS A REDUCTION IN ITS QUALITY.

[Signed] IRA REMSEN, *Chairman,*
RUSSELL H. CHITTENDEN,
JOHN H. LONG,
CHRISTIAN A. HERTER,
ALONZO E. TAYIOR,

Referee Board of Consulting Scientific Experts."

FOOD INSPECTION DECISION 135.
SACCHARIN IN FOOD.

"At the request of the Secretary of Agriculture, the Referee Board of Consulting Scientific Experts has conducted an investigation as to the effect on health of the use of saccharin. The investigation has been concluded, and the Referee Board reports that the continued use of saccharin for a long time in quantities over THREE-TENTHS OF A GRAIM per day IS LIABLE TO IMPAIR DIGESTION; and that the addition of saccharin as a substitute for cane sugar or other forms of sugar reduces the food value of the sweetened product, and hence lowers its quality.

"Saccharin has been used as a substitute for sugar in over thirty classes of foods in which sugar is commonly recognized as a normal and valuable ingredient. If the use of saccharin be continued, it is evident that amounts of saccharin may readily be consumed which will, through continual use, PRODUCE DIGESTIVE DISTURBANCES. In every food in which saccharin is used some other sweetening agent known to be harmless to health can be substituted, and THERE IS NOT EVEN A PRETENSE THAT SACCHARIN IS A NECESSITY in the MANUFACTURE OF FOOD PRODUCTS. Under the food and drugs act articles of food are adulterated if they contain ADDED POISONOUS or other ADDED DELETERIOUS ingredients WHICH MAY RENDER THEM INJURIOUS TO HEALTH. Articles of food are also adulterated within the meaning of the act if substances have been mixed and packed with the foods so as to reduce or lower or injuriously affect their quality or strength. The findings of the Referee Board show that SACCHARIN IN FOOD IS SUCH AN ADDED POISONOUS OR OTHER ADDED DELETERIOUS INGREDIENT as is contemplated by the act, and also that the substitution of saccharin for sugar in foods reduces and lowers their quality.

"The Secretary of Agriculture, therefore, WILL REGARD AS ADULTERATED under the food and drugs act FOODS CONTAINING SACCHARIN which, on and after July 1, 1911, are manufactured or offered for sale in the District of Columbia or the Territories, or shipped in interstate or foreign commerce, or offered for importation into the United tSates.

FRANKLIN MACVEAGH, *Secretary of the Treasury.*
JAMES WILSON, *Secretary of Agriculture.*
CHARLES NAGEL, *Secretary of Commerce and Labor."*
WASHINGTON, D. C., April 26, 1911.

BRIEFS SUBMITTED BY THE BUREAU OF CHEMISTRY.

STATEMENT BY H. W. WILEY, CHIEF.

December 6, 1911.

The Secretary of Agriculture.

Sir: In response to your request for a review of the statements made before the three Secretaries in regard to validating the use of saccharin I beg to inform you that I have asked Dr. Bigelow and Dr. Kebler to prepare briefs on this subject. These briefs are appended.

My own opinion in this matter has never changed. Saccharin is in its name a fraud and to the great majority of people in this country it means sugar. For this reason alone, if there were no other, it should be barred from the foods of the country. Saccharin is always used for the purpose of fraud and deception and conceals inferiority by producing in a food product a sweet taste not due to sugar, which naturally produces this taste. For this reason it is clearly to be excluded from foods under the food and drugs act. Saccharin, too, is undoubtedly a substance which of necessity must be injurious to health.

In addition to the material summarized by Dr. Bigelow and to the opinion of the Referee Board, I beg to call your attention particularly to one of the statements in Dr. Folin's paper, i. e., THAT SACCHARIN WAS EXCRETED FROM THE KIDNEYS UNCHANGED. THE CONTINUED POURING OF A FOREIGN BODY OF THIS KIND, WHICH MUST HAVE VERY ACTIVE PROPCRTIES, THROUGH THE DELICATE CELLS OF THE KIDNEYS CAN NOT FAIL IN TIME TO PRODUCE SERIOUS DISTURBANCES OF FUNCTION AND EVEN FATAL DISEASE. That and the other reasons which have been so ably presented by many authorities are sufficient to convince me beyond any reasonable doubt that the use of saccharin in any quantity is necessarily injurious.

The argument that it may be used in small quantities is the old, familiar one which adulterators and those who seek to adulterate have used from the very beginning of things. If we admit one injurious substance in small quantities we cannot with any justice exclude any other. If this principle is acted upon and becomes valid by authority of law we cannot with any consistency object to any small quantity of borax, benzoate of soda, benzaldehyde, formaldehyde, sulphate of copper, salicylic acid, or coal-tar dyes, or any other of the deleterious bodies which the debasers of food have used and are using today. The argument of small quantities has absolutely no ethical, logical, or legal foundation and is most dangerous. The result of admitting the justice of this argument and acting thereon would be to validate under the high authority of the law the use of small quantities of dangerous and threatening substances and thus intrench the practice of adulteration firmly under the protection of the law. No more dangerous concession to the interests seeking to debase and adulterate and misbrand food products could be made.

It is with earnest feelings as to the correctness of my demand that I urge upon you and the other Secretaries as strongly as I can the importance of refusing in any way to condone the use of saccharin in foods after the period which has already been fixed, i. e., January 1, 1912.

In the hope and the expectation that this will be the final action of the three Secretaries, I am,

Respectfully, [Signed] H. W. Wiley,
Chief.

From Brief of Dr. W. B. Bigelow, Assistant Chief, and Chief Division of Foods:

"The counsel for the manufacturers say that invalids and CHILDREN consume less food THAN NORMAL ADULTS and hence, even if 0.01 per cent. of saccharin were added to all food, they would consume less saccahrin than the amount given above. In this connection it must be borne in mind that WHILE INVALIDS AND CHILDREN CONSUME LESS FOOD they are likely to CONSUME MORE SWEETENED FOOD THAN NORMAL ADULTS *and* THEY ARE ALSO MUCH MORE SUSCEPTIBLE TO THE TOXIC EFFECTS OF SACCHARIN."

It will be conceded that soft, or sweetened drinks, ice cream and similar sweetened foods, are most largely used by children and young people, whose craving for sweets is a natural demand by their growing bodies, which is satisfied only by sugar; and is not provided by saccharin, a drug having no food value.

> United States Dispensatory, Twentieth Edition: "Saccharin (Benzosulphinidum.) It has a slight local irritant action, and, according to the Referee Board of the U. S. Bureau of Chemistry, doses of more than 0.3 gram per day are liable, if used over periods of time, to impair digestion."
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> Materia Medica Pharmacy and Therapeutics, Potter, Tenth Edition: "Benzosulphinide (Saccharin.)—It is used as a substitute for sugar in the food of diabetics and subjects of hepatic disease and corpulence; also to cover the taste of nauseous drugs and as an internal antiseptic in cases of cystitis with decomposing urine."
>
> Practical Therapeutics, Hare, Sixteenth Edition: "Saccharin Physiological Action—Upon the circulation and similar vital functions saccahrin has no effect, but Plugge has proved it to retard the action of all the digestive ferments, and to be in consequence not devoid of evil effect on diabetics whose digestion is impaired."
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> Modern Materia Medica and Therapeutics, Stevens, Fifth Edition: "Benzosulphinidum (Saccahrin is chiefly useful as a substitute for sugar when the latter is contraindicated, as in diabetes mellitus. Used too freely, it has a retarding influence on digestion and general metabolism."
>
> Medical Chemistry and Toxicology, Holland, Second Edition: "Saccahrin—Toxicology. It retards the action of the enzyms in the digestive fluids and also those of the blood and tissues. To a certain extent it depresses general metabolism."

The preceding quotations from modern authorities should convince the most sceptical that saccharin, a most potent drug, an antiseptic, a preservative or antiferment, in other words an antidigestive, is not only a fraud under the Food and Drug Law, as it is not a food, but also that it is used as a substitute for sugar, one of the most valuable, if not the most valuable, food known.

It is used principally by invalids, children and young people, who by nature are fond of sugar, a natural craving of the body for the necessary carbohydrates to promote the normal growth of the body and repair the waste of the invalid weakened, or childhoods intense bodily activity.

It is to be hoped that parents and guardians of children, physicians and nurses, will demand of their State and national officers, legislative, administrative and judicial a strict enforcement of the law prohibiting the sale of adulterated, poisonous or deleterious foods .

R. E. ROSE,

State Chemist.

NEW YORK WHOLESALE PRICES, CURRENT OCT. 1, 1920, FERTILIZER MATERIALS.

Ammoniates.

Ammonia, sulph., bulk, f. o. b. works.... per 100 lbs	5.50	@	5.60
double bags, f. a. s. New York	5.80	@	5.95
Fish scrap, dried, 11 p. c. ammonia and 14 p. c. bone phosphate, f. o. b. factories	7.50	&	10
wet, acidulated, 6 p. c. ammonia, 3 p. c. phosphoric acid, f. o. b. fish factory, if made	6.50	&	50
Ground fish scrap, 11 to 12 p. c. ammonia, 15 p. c. B. P. L. f. o. b. fish factory, ton	100.00	@	—
Tankage, 11 p. c. and 15 p. c. Chicago, ground	7.00	&	10
Tankage, 10 and 20 p. c., f. o. b. Chicago, ground	7.00	&	10
Tankage, 9 and 20 p. c., f. o. b. Chicago, ground	7.00	&	10
Tankage, concentrated, f. o. b. Chicago, 14 to 15 p. c.	7.00	@	7.25
blood, f. o. b. Chicago	7.50	@	7.75
Garbage, tankage, f. o. b. Chicago. per ton	16.00	@	—
Hoofmeal, f. o. b. Chicago........% unit	6.75	@	7.25
Dried blood, 12-13 p. c. ammonia, f. o. b. New York	7.50	@	7.75
Tankage, New York	7.00	&	10
Nitrate of soda.............per 100 lbs.	3.50	@	3.55
futures	3.65	@	3.75
Cottonseed meal, 7 p. c. ammonia, f. o. b. mill..........per ton	45.00	to	45.50

PHOSPHATES.

Acid phosphate, basis 16%, bulk . . per ton	21.00	@	—
Southern ports	21.50	@	
Bones, rough, hard	30.00	@	32.00
soft steamed, unground	38.00	@	40.00
ground, steamed, 1¼ p. c. ammonia and 50 p. c. bone phosphate	40.00	@	45.00
do., 3 and 50 p. c.	45.00	@	50.00
raw, ground, 4 p. c. ammonia and 50 p. c. bone phosphate	60.00	@	62.50
Florida land pebble phosphate rock, 68 p. c. f. o. b. mines	10.75	@	11.25
Florida land pebble phosphate rock, 75 p. c., f. o. b. mines	11.50	@	12.00
Florida, land pebble phosphate rock, 77 p. c., f. o. b. mines	13.50	@	14.00
Florida high-grade phosphate hard rock, 77 p. c., f. o. b. mines	14.50	@	15.50
Tennessee phosphate rock, f. o. b. Mt. Pleasant, domestic, 78@80 p. c. . . . per ton	15.00	@	15.50
75 p. c. . . . per ton, 2,240 lbs.	11.00	@	12.00
70 p. c. ground	10.50	@	11.00
unground	9.00	@	10.00

POTASHES.

American fertilizer, potash, in paper-lined cars, f. o. b. works . . . per unit	2.25	@	2.30
Muriate of potash, 80@85 per cent. K. C. L., bags . . . per unit	2.40	@	—
Muriate of potash, min., 90@95 per cent., basis 80 per cent., in bags	2.40	@	—
Muriate of potash, min. 98 per cent., basis 80 per cent., in bags	Nominal		
Sulphate of potash, 90@95 per cent., basis 90 per cent., in bags . . . per unit	3.00	@	—
First sorts potashes . . . per lb.	15	@	17

MARKET PRICES OF CHEMICALS AND FERTILIZING MATERIALS AT FLORIDA SEAPORTS, OCT. 1, 1920.

MATERIAL	COMPOSITION				
	Available Phosphoric Acid	Insoluble Phosphoric Acid	Potash	Ammonia	Price Per Ton
Dissolved bone black	16	......	......	......	$34.00
High grade acid phosphate	16	......	......	......	28.00
Low grade acid phosphate	14	......	......	......	23.50
Hardwood ashes	......	......	3	......	31.00
Hardwood ashes	......	......	2	......	28.00
Domestic potash	......	......	25	......	90.00
Nebraska potash	......	......	28	......	98.00
Sulphate of potash	......	......	50	......	180.00
Manure salt	......	......	20	......	70.00
Kainit	......	......	12	......	45.00
Nitrate of potash	......	......	15	18	130.00
Shrimp scrap	7	......	1	4	75.00
Cotton seed meal	2.5	......	1.5	7	78.00
Sheep manure	2	......	3.5	2.2	40.00
Goat manure	1	......	3	1.5	35.00
Ground tobacco stems	......	......	8	3	66.00
Steamed bone meal	8	14	......	3	65.00
Raw bone meal	5	17	......	4.5	70.00
Low grade tankage	4	8	......	6.5	78.00
Medium grade tankage	3	7	......	8	92.00
High grade tankage	1.5	3.5	......	10	110.00
Dried blood	......	......	......	14	157.00
Dried blood	......	......	......	16	164.00
Nitrate of soda	......	......	......	18	95.00
Sulphate of ammonia	......	......	......	25	137.00
Castor meal	......	......	......	6.5	70.00

Terms: 30 days net, or 5% discount for cash in 10 days.

The charges by reputable manufacturers for mixing and bagging any special or regular formula are $3.50 per ton in excess of above prices.

STATE VALUATIONS

(Based on commercial value Oct. 1, 1920, at Florida factories in ton lots for cash, f. o. b.)

Available Phosphoric Acid	9c	a pound
Insoluble Phosphoric Acid	2c	a pound
Ammonia (or its equivalent in nitrogen)	38c	a pound
Potash (as actual potash, K2O)	18c	a pound

If calculated by units:

Available Phosphoric Acid	$1.80 per unit
Insoluble Phosphoric Acid	0.40 per unit
Ammonia (or its equivalent in nitrogen)	7.60 per unit
Potash	3.60 per unit

With a uniform allowance of $3.50 per ton for mixing and bagging.

A unit is twenty pounds, or 1 per cent in a ton. We find this to be the easiest and quickest method for calculating the value of fertilizer. To illustrate this, take for example a fertilizer which analyzes as follows:

Available Phosphoric Acid	6.22 per cent x $1.80 =	$11.20
Insoluble Phosphoric Acid	1.50 per cent x 0.40 =	0.60
Ammonia	3.42 per cent x 7.60 =	25.99
Potash	3.23 per cent x 3.60 =	11.63
Mixing and bagging		3.50
Commercial value at seaports		$52.92

Or a fertilizer analyzing as follows:

Available Phosphoric Acid	8 per cent x $1.80 =	$14.40
Ammonia	2 per cent x 7.60 =	15.20
Potash	2 per cent x 3.60 =	7.20
Mixing and bagging		3.50
Commercial value at seaports		$40.30

The valuations and market prices in preceding illustrations are based on market prices for one-ton lots.

STATE VALUES.

It is not intended by the "State valuations" to fix the price or commercial value of a given brand. The "State values" are the market prices for the various approved chemicals and materials used in mixing or manufacturing commercial fertilizers or commercial stock feed at the date of issuing a Bulletin, or the opening of the "season." They may, but seldom do, vary from the market prices, and are made liberal to meet any slight advance or decline.

They are compiled from price lists and commercial reports by reputable dealers and journals.

The question is frequently asked, "What is Smith's Fruit and Vine worth per ton?" Such a question cannot be answered categorically. By analysis, the ammonia, available phosphoric acid and potash may be determined and the inquirer informed what the cost of the necessary materials to compound a ton of goods similar to "Smith's Fruit and Vine" would be, using none but accepted and well-known materials of the best quality.

State values do not consider "trade secrets," loss on bad bills, cost of advertisements and expenses of collections. The "State value" is simply that price at which the various ingredients necessary to use in compounding a fertilizer or feed, can be **purchased for cash in ton lots at Florida seaports.**

These price lists published in this report, with the "State values," Oct. 1, 1920, are nominal.

FACTORS FOR CONVERSION.

To Convert—

Ammonia into nitrogen, multiply by	0.824
Ammonia into protein, multiply by	5.15
Nitrogen into ammonia, multiply by	1.214
Nitrate of soda into nitrogen, multiply by	0.1647
Nitrogen into protein, multiply by	6.25
Bone phosphate into phosphoric acid, multiply by	0.458
Phosphoric acid into bone phosphate, multiply by	2.184
Muriate of potash into actual potash, multiply by	0.632
Actual potash into muriate of potash, multiply by	1.583
Sulphate of potash into actual potash, multiply by	0.541
Actual potash into sulphate of potash, multiply by	1.85
Nitrate of potash into nitrogen, multiply by	0.139
Carbonate of potash into actual potash, multiply	0.681
Actual potash into carbonate of potash, multiply	1.466
Chlorine, in "kainit," multiply potash (K_2O) by	2.33

For instance, you buy 95 per cent. nitrate of soda, and want to know how much nitrogen is in it, multiply 95 per cent. by 0.1647, you will get 15.65 per cent. nitrogen; you want to know how much ammonia this nitrogen is equivalent to, then multiply 15.65 per cent. by 1.214, and you get 18.90 per cent., the equivalent in ammonia.

Or, to convert 90 per cent. carbonate of potash into actual potash (K_2O), multiply 90 by 0.681, equals 61.29 per cent. actual potash (K_2O).

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS.

NAME OF FEED.	Crudé Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Maiden Cane Hay.....	28.60	11.60	42.40	2.60	4.20
Natal Grass Hay......	36.70	7.40	39.20	1.80	5.00
Para Grass Hay......	31.20	8.00	45.70	1.60	6.20
Rhodes Grass Hay....	41.10	7.70	36.80	1.30	6.60
Beggarweed Hay......	24.30	21.60	35.10	4.10	4.00
Kudzu Vine Hay......	32.30	15.90	33.00	1.60	6.80
Cow Pea Hay..........	20.50	13.00	45.90	4.20	7.50
Velvet Bean Hay.....	29.70	14.70	41.00	1.70	5.70
Velvet Beans	7.00	21.00	53.10	5.40	3.60
Velvet Bean Hulls....	27.00	7.50	44.60	1.60	4.30
Velvet Beans and Hulls	10.70	19.40	50.60	4.50	3.50
Cow Peas	4.10	20.80	55.70	1.40	3.20
Soy Bean Meal.......	4.50	48.40	27.50	6.40	4.40
Peanut Vine Meal.....	29.60	9.90	38.40	6.30	6.60
Cotton Seed..........	23.20	18.40	24.70	19.90	3.50
Cotton Seed Hulls....	44.40	4.00	36.60	2.00	2.60
Bright Cotton S'd Meal	9.40	38.62	28.60	7.80	5.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract).	Fat.	Ash.
Dark Cotton Seed Meal	20.00	23.15	37.10	5.50	5.00
Corn Grain...........	2.10	10.50	69.60	5.40	1.50
Corn Meal............	1.90	9.70	68.70	3.80	1.40
Hominy Feed.........	4.00	10.50	65.30	7.80	2.60
Corn and Cob Meal....	5.80	7.50	70.80	3.10	1.20
Ground Corn Shucks..	30.20	2.80	54.60	0.60	1.90
Ground Corn Cobs....	30.00	3.00	56.60	0.70	1.60
Equal parts, Corn in Shucks & V'lv't Beans	16.03	12.56	53.71	2.32	4.33
Oats (grain)	9.50	11.80	59.70	5.00	3.00
Rice (grain)	0.20	7.40	79.20	0.40	0.40
Rice Bran.............	9.50	12.10	49.90	8.80	10.00
Wheat (grain)	1.80	11.90	71.90	2.10	1.80
Wheat Bran..........	9.00	15.40	53.90	4.00	5.80
Wheat Middlings	5.40	15.40	59.40	4.10	3.20
Wheat Mixed Feed....	7.80	16.90	54.40	4.80	5.30
Wheat Ship Stuff.....	5.60	14.60	59.80	5.00	3.70
Dry Jap Sugar Cane..	26.20	2.30	62.60	1.50	2.80

AVERAGE COMPOSITION OF FLORIDA FEEDING STUFFS—(*Continued*).

NAME OF FEED.	Crude Fiber.	Protein.	Starch and Sugar (Nitrogen Free Extract)	Fat.	Ash.
Peanut Hulls	56.60	7.30	18.90	2.60	5.50
Peanut, with Hulls.	16.40	20.40	16.40	36.20	4.10
Peanut Kernel	2.60	26.40	17.50	44.90	2.20
Peanut Meal (without Hulls)	5.10	47.60	23.70	8.00	4.90
Peanut Feed (including Hulls)....	23.40	28.40	27.00	11.00	5.50

COMMERCIAL STATE VALUES OF FEED STUFF FOR 1920.

For the season 1920 the following ''State values'' are fixed as a guide to purchasers, quotation Oct. 1st.

These values are based on the current prices of corn, which has been chosen as a standard in fixing the commercial values, the price of corn, to a large extent, governing the price of other feeds, pork, beef, etc.:
$3.25 per sack of 100 lbs., $1.82 per bu., 56 lbs.

To find the commercial State value, multiply the percentages by the price per unit.

A unit being 20 pounds (1%) of a ton.

Protein, 6.8c per pound	$1.36 per unit
Starch and sugar, 3.1c per pound	.62 per unit
Fat, 6.8c per pound	1.36 per unit

EXAMPLE NO. 1.

Corn and Oats, Equal Parts:

Protein	11.15 x 1.36,	$15.16
Starch and Sugar	64.65 x .62,	40.08
Fat	5.20 x 1.36,	7.07
State value, per ton		$62.31

EXAMPLE NO. 2.

Corn:

Protein	10.50 x 1.36,	$14.28
Starch and Sugar	69.60 x .62,	43.15
Fat	5.40 x 1.36,	7.34
State value, per ton		$64.77

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. SPECIAL FERTILIZER ANALYSES, 1920. GORDON HART, Assistant Chemist.
Samples Taken by Purchaser Under Section 9, Act Approved May 22, 1901.

NAME, OR BRAND.	Laboratory Number.	Moisture.	Phosphoric Acid.			Ammonia	Potash (K_2O).	FOR WHOM SENT.
			Available.	Insoluble.	Total.			
Fertilizer	5359	8.32	10.70	2.30	13.00	4.55	4.12	Manatee Fruit Co., Palmetto.
Fertilizer No. 5	5360	6.37	7.35	8.15	15.50	4.23	4.92	Manatee Fruit Co., Palmetto.
Commercial Fertilizer	5361	14.22	7.95	6.40	14.35	3.96	3.06	Lake Nursery Co., Leesburg.
Fertilizer	5362	4.32	8.58	1.67	10.25	4.18	5.16	S. B. Hull, Oakland.
Fertilizer	5363	9.87	7.35	1.90	9.25	4.32	5.00	G. E. Nolan, Orlando.
Fertilizer No. 21131	5364	9.10	.....	.....	.....	.....	.....	Borax 0.026 %, C. M. Berry, Sanford.
Fertilizer	5365	11.37	10.67	0.65	11.32	4.82	3.58	G. F. Huxtable, Orlando.
Fertilizer	5366	9.37	6.65	2.90	9.55	3.41	10.88	Standard Growers' Exchange, Fort Myers.

Blood Bone and Potash	5367	12.15	9.00	0.70	9.70	2.40	2.36	Thomas Guidy, Milton.
Fertilizer No. 5	5368	8.10	10.65	4.85	15.50	3.58	2.82	Manatee Fruit Co., Palmetto.
Fertilizer	5369	8.35	8.10	1.20	9.30	3.05	4.52	Mrs. I. M. Starke, Beresford.
Fertilizer	5370	8.42	8.30	2.32	10.62	4.20	3.78	A. D. Symonds, Orlando.
Fertilizer	5371	9.72	8.42	7.50	15.92	3.30	5.28	Anderson & Wilson, Orlando.
Fertilizer	5372	6.75	8.93	1.07	10.00	2.40	5.22	A. S. Cecil, Orlando.
Fertilizer	5373	13.67	8.45	6.17	14.62	4.05	4.80	Nocatee Fruit Co., Nocatee.
Castor Pomace	5374	6.90	0.50	0.05	0.55	6.35	1.04	J. J. Bolly, Sanford.
Mixed Fertilizer	5375	7.90	7.47	1.70	9.17	3.92	3.14	Tropical Vegetable Co., Sanford.
Mixed Fertilizer No. 1	5376	11.22	5.45	1.25	6.70	5.87	4.54	Joseph Cameron, Sanford.
Tankage No. 2	5377	12.02	5.65	2.75	8.40	9.44	.....	Joseph Cameron, Sanford.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FERTILIZER SECTION.

R. E. ROSE, State Chemist. OFFICIAL FERTILIZER ANALYSES, 1920. GORDON HART, Assistant Chemist.
Samples Taken by Inspectors Under Sections 1 and 2, Act Approved May 22, 1901.
Deficiencies greater than 0.20% are distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	*Analyses.* Guaranteed and Found.	Moisture.	Phosphoric Acid.			Ammonia.	Potash (K_2O).	BY WHOM AND WHERE MANUFACTURED.
				Available.	Insoluble.	Total.			
Exchange Special Fruit Mixture	2594	Guaranteed	10.00	8.00	1.00	.....	4.00	2.00	Exchange Supply Co., Tampa, Fla.
		Found.....	13.22	9.10	3.00	12.10	4.12	3.36	
No Brand	2595	Guaranteed	18.00	9.00	0.50	.....	2.00	3.00	Savannah Guano Co., Savannah, Ga.
		Found.....	12.12	9.20	0.95	10.15	2.06	2.80	
Strawberry 3% Special	2596	Guaranteed	5.00	6.00	1.75	.....	4.00	3.00	E. O. Painter Fertilizer Co., Jacksonville, Fla.
		Found.....	10.85	6.88	2.57	9.45	4.15	3.12	
Good Cotton Seed Meal	5397	Guaranteed	.....	.....	.....	.....	7.00	.....	Central Cotton Oil Co., Macon, Ga.
		Found.....	8.12	.....	.....	.....	6.95	.....	

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

FEEDING STUFF SECTION.

R. E. ROSE, State Chemist. OFFICIAL FEEDING STUFF ANALYSES, 1920. E. PECK GREENE, **Asst. Chemist.**
Samples Taken by State Chemist and State Inspectors Under Sections 1, 2 and 13, Act Approved **May 24, 1905.**
Deficiencies Greater than 0.20% are Distinguished by Black Face Type.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Over the Top Horse and Mule Feed	3093	Guaranteed	15.00	10.00	50.00	2.50	......	South Georgia Milling Co., Valdosta, Ga.
		Found.....	13.68	9.87	**47.79**	2.61	9.55	
Unkle Pat Horse Feed	3094	Guaranteed	12.00	9.00	59.00	2.00	......	Aunt Patsy Poultry Feed Co., Memphis, Tenn.
		Found.....	13.06	9.06	**52.46**	2.16	6.48	
Tip Top Molasses Feed	3095	Guaranteed	15.00	9.00	55.00	2.00	......	National Milling Co., Macon, Ga.
		Found.....	17.42	10.39	**51.13**	1.88	7.34	
Big Bill Horse and Mule Feed	3096	Guaranteed	16.00	10.00	55.00	2.50	......	The Hammond Co., Inc., Laurinburg, N. C.
		Found.....	13.72	10.52	**52.67**	**2.08**	7.21	
Just Dairy Feed	3097	Guaranteed	12.00	24.00	42.00	4.30	......	Just Mills, Nashville, Tenn.
		Found.....	10.92	24.44	**40.67**	5.07	6.82	
Sho-Me Horse and Mule Feed	3098	Guaranteed	15.00	9.00	45.00	2.00	......	Excello Feed Milling Co., St. Joseph, Mo.
		Found.....	13.19	9.20	55.70	**1.64**	6.35	

OFFICIAL FEED STUFF ANALYSES, 1920.—Continued.

NAME, OR BRAND.	Laboratory Number.	Analyses. Guaranteed and Found.	Fiber.	Protein.	Starch and Sugar. (Nitrogen Free Extr't.)	Fat.	Ash.	NAME AND ADDRESS OF MANUFACTURER.
Shorto Mixed Feed	3099	Guaranteed	6.50	12.00	......	2.25	......	Cohen's Auction House, Jacksonville, Fla.
		Found.....	3.50	14.39	64.47	2.47	2.10	
Globe Corn Gluten Feed.......	3100	Guaranteed	.....	23.00	51.00	1.00	......	Corn Products Refining Co., New York, N. Y.
		Found.....	5.15	29.84	44.84	3.77	6.60	
Fourex Dairy Rations..........	3101	Guaranteed	12.00	20.00	52.00	4.00	......	The Ubiko Milling Co., Cincinnati, O.
		Found.....	9.97	21.20	46.36	4.85	6.77	
Cotton Seed Meal	3102	Guaranteed	14.00	36.00	27.00	5.50	......	Taylor Commission Co., Atlanta, Ga.
		Found.....	10.50	38.56	28.39	6.10	6.60	
Krak A. Jak Horse Feed........	3103	Guaranteed	15.00	10.00	55.00	2.00	......	The Superior Feed Co., Memphis, Tenn.
		Found.....	12.09	9.27	57.00	2.22	5.15	
Mim Sweet Feed	3104	Guaranteed	19.00	5.25	50.00	2.00	......	The Buckeye Cotton Oil Co., Memphis, Tenn.
		Found.....	13.54	9.42	59.64	1.70	4.85	
Falco Horse Feed	3105	Guaranteed	12.00	9.00	59.00	2.00	......	G. E. Patteson & Co., Memphis, Tenn.
		Found.....	10.62	11.05	57.85	2.84	5.40	
Dandy Special Horse and Mule Feed	3106	Guaranteed	18.00	9.50	55.00	2.50	......	The Hammond Co., Laurinburg, N. C.
		Found.....	11.43	10.00	51.20	2.16	9.45	

Alfogreen H. & M. Feed	3107	Guaranteed	15.00	9.00	50.00	1.50	......	Alfocorn Milling Co., East St. Louis, Ill.
		Found.....	12.87	10.06	47.17	2.07	9.21	
Cotton Seed Meal	3108	Guaranteed	12.00	36.00	30.00	5.00	......	The New Orleans Export Co., Savannah, Ga.
		Found.....	8.55	36.51	31.07	6.40	6.62	

DEPARTMENT OF AGRICULTURE — DIVISION OF CHEMISTRY.

R. E. ROSE, State Chemist. OIL SECTION. E. T. CASLER, Asst. Chemist.

SPECIAL GASOLINE ANALYSIS, 1920.

Samples Taken by Citizens Under Act Approved June 4th, 1919.
Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
3	Gasoline	59.3	55	33	64	91	97	226	Gulf Refining Co.	Gulf Refining Co., Jacksonville.
4	Gasoline	59.1	56	31	63	91	97	227	Gulf Refining Co.	Gulf Refining Co., Jacksonville.
5	Gasoline	58.6	57	37	70	93	97	224	Gulf Refining Co.	Gulf Refining Co., Orlando.
6	Gasoline	59.3	57	37	70	92.5	97	223	Gulf Refining Co.	Gulf Refining Co., Orlando.
7	Gasoline	61.2	50	32	63	90	96	224	Sherrill Oil Co...	Island Refining Co., Pensacola.
8	Gasoline	61.4	54	33	64	91	97	223	Island Refin'g Co.	Island Refining Co., New Orleans, La.
9	Gasoline	59.8	51	32	68	93.5	97	214	Gulf Refining Co.	Gulf Refining Co., Jacksonville.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY

R. E. ROSE, State Chemist. OIL SECTION. E. T. CASLER, **Asst. Chemist.**

OFFICIAL GASOLINE ANALYSES, 1920

Samples Taken by State Inspectors Under Act Approved June 4th, 1919.
Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	**End Point ° C**	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
767	Gasoline	57.9	51	26	58.5	91	97	224	E. M. Johns.....	Standard Oil Co., **Macclenny.**
768	Gasoline	57.9	52	23.5	56	90	97	225	E. M. Johns.....	Standard Oil Co., **Macclenny.**
769	Gasoline	58.0	53	23	56	90	97	225	E. M. Johns.....	Standard Oil Co., **Macclenny.**
770	Gasoline	57.9	50	26	58	91	97	224	E. M. Johns.....	Standard Oil Co., **Macclenny.**
771	Gasoline	59.4	53	37	72	94	97	218	E. M. Johns.....	The Texas Co. **Macclenny.**
772	Gasoline	57.9	53	23	56	90	97	223	E. M. Johns.....	Standard Oil Co. **Macclenny.**
773	Gasoline	59.1	54	35	70	93	97	221	W. S. McLin....	Standard Oil Co., Jasper.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
774	Gasoline	58.1	52	26	57	90	97	223	W. S. McLin....	Standard Oil Co., Live Oak.
775	Gasoline	59.2	52	33	67	93	97	216	W. S. McLin....	Gulf Refining Co., Live Oak.
776	Gasoline	59.9	54	37.5	72.5	93.5	97	217	W. S. McLin....	The Texas Co., Live Oak.
777	Gasoline	60.1	53	39	73	94	97	218	W. S. McLin....	The Texas Co., Tallahassee.
778	Gasoline	58.7	48	42	70	93	97	219	W. S. McLin....	Gulf Refining Co., Tallahassee.
779	Gasoline	57.9	52	25	58	91	97	223	E. M. Johns.....	Standard Oil Co., Alachua.
780	Gasoline	58.0	51	26	58	91	97	222	E. M. Johns.....	Standard Oil Co., Alachua.
781	Gasoline	58.3	51	26	58	90	97	225	E. M. Johns.....	Standard Oil Co., High Springs.
782	Gasoline	58.0	52	25	56	90	97	225	E. M. Johns.....	Standard Oil Co., High Springs.

783	Gasoline	57.9	54	23	56	90	96.5	225	E. M. Johns.....	Standard Oil Co., Newberry.
784	Gasoline	57.9	52	25	58	90	97	225	E. M. Johns.....	Standard Oil Co., Newberry.
785	Gasoline	58.0	52	36	68	91	97	227	G. B. Hills......	Gulf Refining Co., Port Tampa.
786	Gasoline	58.0	50	36	67	91	97	229	G. B. Hills......	Gulf Refining Co., Port Tampa.
787	Gasoline	58.4	51	27	60	90	97	223	G. B. Hills.....	Standard Oil Co., Tampa.
788	Gasoline	58.3	51	29	62	9.15	97	220	G. B. Hills.....	Standard Oil Co., Tampa.
789	Gasoline	58.5	50	27	59	90	97	225	G. B. Hills.....	Standard Oil Co., Tampa.
790	Gasoline	58.9	52	33	71	94	97.5	211	G. B. Hills.....	The Texas Co., Tampa.
791	Gasoline	56.9	54	25	58	91	97	223	W. S. McLin....	The Texas Co., Pensacola.
792	Gasoline	58.9	50	35	65	90.5	96.5	224	W. S. McLin....	Gulf Refining Co., Pensacola.
793	Gasoline	58.7	50	28	59	90.5	97	225	W. S. McLin....	Standard Oil Co., Pensacola.
794	Gasoline	58.4	52	27	58	90.5	97	223	W. S. McLin....	Standard Oil Co., Pensacola.
795	Gasoline	58.9	51	28	59	91	97	224	W. S. McLin....	Standard Oil Co., Milton.
796	Gasoline	58.8	51	26	57	90.5	97	224	W. S. McLin....	Standard Oil Co., Milton.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point °C	%Distillate Below 105 °C	%Distillate Below 140° C	%Distillate Below 190° C	%Recovered	End Point °C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
797	Gasoline	58.6	50	38	72	94	97.5	218	E. M. Johns....	Gulf Refining Co., Jacksonville.
798	Gasoline	59.3	54	36	71	93	97	219	E. M. Johns....	Gulf Refining Co., Jacksonville.
799	Gasoline	58.4	55	35	71	93	97	225	E. M. Johns....	Gulf Refining Co., Jacksonville.
800	Gasoline	57.9	52	23	57	90	97.5	224	E. M. Johns....	Standard Oil Co., Jacksonville.
801	Gasoline	58.0	54	28	61	92	98	216	E. M. Johns....	Standard Oil Co., Jacksonville.
802	Gasoline	59.5	57	34	71	93	98	215	E. M. Johns....	The Texas Co., Jacksonville.
803	Gasoline	57.9	53	24	58	91	97.5	224	E. M. Johns....	Standard Oil Co., Jacksonville.
804	Gasoline	57.9	54	24	58	91	97	223	E. M. Johns....	Standard Oil Co., Jacksonville.
805	Gasoline	58.0	54	26	58.5	91	97.5	225	E. M. Johns....	Standard Oil Co., Jacksonville.

806	Gasoline	58.0	52	25	57	90	97	224	E. M. Johns....	Standard Oil Co., Jacksonville.
807	Gasoline	58.7	54	35	70	93	97.5	225	E. M. Johns....	Gulf Refining Co., Jacksonville.
808	Gasoline	57.8	55	22	55	90	97	225	E. M. Johns....	Standard Oil Co., Jacksonville.
809	Gasoline	57.2	73	9	46	89	97.5	224	E. M. Johns....	Louisiana Oil Refining Co., Palatka.
810	Gasoline	57.2	75	8.5	46.5	89	98	224	E. M. Johns....	Louisiana Oil Refining Co., Palatka.
811	Gasoline	58.3	53	29	64	93	97.5	217	G. B. Hills.....	Standard Oil Co., Key West.
812	Gasoline	58.1	51	24	58	90	97	224	G. B. Hills.....	Standard Oil Co., Key West.
813	Gasoline	58.0	53	26	59	91	97	222	G. B. Hills.....	Standard Oil Co., Key West.
814	Gasoline	59.9	51	38	76	94.5	97	207	G. B. Hills.....	Gulf Refining Co., Key West.
815	Gasoline	59.3	50	40	72	94	97.5	212	G. B. Hills.....	Gulf Refining Co., Key West.
816	Gasoline	57.8	52	25	58	90.5	97	224	G. B. Hills.....	Standard Oil Co., Key West.
817	Gasoline	57.9	50	26	58	90.5	97	222	E. M. Johns....	Standard Oil Co., Starke.
818	Gasoline	57.9	52	24	56	90	96.5	224	E. M. Johns....	Standard Oil Co., Starke.
819	Gasoline	57.8	49	25	57	90.5	97	228	E. M. Johns....	Standard Oil Co., Starke.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
820	Gasoline	58.0	48	26	57	90.5	97	223	E. M. Johns....	Standard Oil Co., Starke.
821	Gasoline	57.8	49	25	57	90.5	97	223	E. M. Johns....	Standard Oil Co., Starke.
822	Gasoline	57.9	50	23	57	90	97	225	E. M. Johns....	Standard Oil Co., Starke.
823	Gasoline	60.1	49	40	75	94.5	97.5	215	G. B. Hills.....	The Texas Co., Miami.
824	Gasoline	64.6	53	47	76	94	97	219	G. B. Hills.....	Louisiana Oil Co., Miami.
825	Gasoline	58.1	63	19	50.5	85	97	239	G. B. Hills.....	Louisiana Oil Co., Miami.
826	Gasoline	59.0	60	22	53	87	97	238	G. B. Hills.....	Louisiana Oil Co., Miami.
827	Gasoline	58.7	50	34	65	91	97	224	G. B. Hills.....	Gulf Refining Co., Miami Beach.

828	Gasoline	59.3	47	37.5	68	92	97	224	G. B. Hills.....	Gulf Refining Co., Miami Beach.
829	Gasoline	57.3	70	10	48.5	90	97	225	E. M. Johns....	Louisiana Oil Refining Co., Daytona.
830	Gasoline	57.3	71	10	48.5	90	97	225	E. M. Johns....	Louisiana Oil Refining Co., Daytona.
831	Gasoline	57.7	54	36	67	90.5	97	234	E. M. Johns....	Gulf Refining Co., Daytona.
832	Gasoline	57.7	53	36	67.5	90.5	97	234	E. M. Johns....	Gulf Refining Co., Daytona.
833	Gasoline	57.9	53	28	60	91	97	221	E. M. Johns....	Standard Oil Co., Daytona.
834	Gasoline	57.9	53	25	57.5	91	97	223	E. M. Johns....	Standard Oil Co., Daytona.
835	Gasoline	56.9	60	24	56.5	90	97.5	225	W. S. McLin....	Standard Oil Co., DeFuniak Springs.
836	Gasoline	56.9	60	24	57	90	97	225	W. S. McLin....	Standard Oil Co., DeFuniak Springs.
837	Gasoline	60.7	54	39	76	96	97	201	W. S. McLin....	Gulf Refining Co., Chipley.
838	Gasoline	58.4	49	27.5	56	90	97	225	W. S. McLin....	Standard Oil Co., Chipley.
839	Gasoline	58.8	52	30	62	91	97	222	W. S. McLin....	Standard Oil Co., Chipley.
840	Gasoline	58.9	51	42	73	93.5	97	215	W. S. McLin....	Gulf Refining Co., Panama City.
841	Gasoline	57.8	52	37.5	68.5	91.5	97	225	G. B. Hills.....	Gulf Refining Co., Ft. Pierce.
842	Gasoline	58.4	52	25	57	91	97	223	G. B. Hills.....	Standard Oil Co., Ft. Pierce.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
843	Gasoline	58.1	50	23	55.5	90	97	224	G. B. Hills.....	Standard Oil Co., Ft. Pierce.
844	Gasoline	57.9	54	25	60	92	97	218	G. B. Hills.....	Standard Oil Co., Ft. Pierce.
845	Gasoline	57.9	52	23	57	90	97	224	G. B. Hills.....	Standard Oil Co., Ft. Pierce.
846	Gasoline	57.0	57	33.5	64	88	97	239	G. B. Hills.....	Gulf Refining Co., Ft. Pierce.
847	Gasoline	58.8	55	32	70	94	97	214	E. M. Johns....	The Texas Co., Orlando.
848	Gasoline	58.8	55	32	70	94	97	212	E. M. Johns....	The Texas Co., Orlando.
849	Gasoline	57.7	54	35	66	91	97	228	E. M. Johns....	Gulf Refining Co., Orlando.
850	Gasoline	57.7	54	36	66	91	97	228	E. M. Johns....	Gulf Refining Co., Orlando.
851	Gasoline	58.8	53	27	62	92	97	218	E. M. Johns....	Standard Oil Co., Orlando.

852	Gasoline	58.3	53	26	61	92	97	218	E. M. Johns....	Standard Oil Co., Orlando.
853	Gasoline	59.2	55	32.5	70	94	97.5	214	E. M. Johns....	The Texas Co., Sanford.
854	Gasoline	59.2	56	32.5	70	94	97	214	E. M. Johns....	The Texas Co., Sanford.
855	Gasoline	58.1	54	25	57	91	97	223	E. M. Johns....	Standard Oil Co., Sanford.
856	Gasoline	58.1	53	27	59	92	97	221	E. M. Johns....	Standard Oil Co., Sanford.
857	Gasoline	59.4	53	37	69	92.5	97	219	E. M. Johns....	Gulf Refining Co., Sanford.
858	Gasoline	58.1	54	25	58	90.5	97	223	E. M. Johns....	Standard Oil Co., Sanford.
859	Gasoline	58.0	53	22	54	90	97	225	G. B. Hills.....	Standard Oil Co., Port Tampa.
860	Gasoline	58.9	48	27	57	90	97	225	G. B. Hills.....	Standard Oil Co., Port Tampa.
861	Gasoline	59.7	53	32	66	93	96.5	213	G. B. Hills.....	Gulf Refining Co., Tampa.
862	Gasoline	59.7	52	32	66	93	96.5	214	G. B. Hills.....	Gulf Refining Co., Tampa.
863	Gasoline	59.9	54	33	67	93	96.5	211	G. B. Hills.....	Gulf Refining Co., Tampa.
864	Gasoline	60.0	52	38	70	93	96.5	211	G. B. Hills.....	Gulf Refining Co., Port Tampa.
865	Gasoline	58.1	53	25	56	90	97	224	W. S. McLin....	Standard Oil Co., Monticello.
866	Gasoline	58.2	49	27	57	90	97	225	W. S. McLin....	Standard Oil Co., Madison.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	......	Not Above 60	20	50	90	95	Not Above 225		
867	Gasoline	59.1	51	40	72	94	97	211	W. S. McLin....	Gulf Refining Co., Perry.
868	Gasoline	58.0	54	25	57	90	97	223	W. S. McLin....	Standard Oil Co., Perry.
869	Gasoline	58.4	52	24	54	90	97	225	W. S. McLin....	Standard Oil Co., Live Oak.
870	Gasoline	59.1	57	36	71	94	97	210	W. S. McLin....	The Texas Co., Live Oak.
871	Gasoline	59.9	52	39	73.5	94	97	211	E. M. Johns....	Gulf Refining Co., Jacksonville.
872	Gasoline	59.5	57	38	73	94	97	212	E. M. Johns....	Gulf Refining Co., Jacksonville.
873	Gasoline	60.2	57	39	75	95.5	97	207	E. M. Johns....	Gulf Refining Co., Jacksonville.
874	Gasoline	58.4	56	35	69	92.5	97	217	E. M. Johns....	Gulf Refining Co., Jacksonville.
875	Gasoline	60.6	57	39	77	95	97	206	E. M. Johns....	Gulf Refining Co., Jacksonville.

876	Gasoline	60.2	58	38	73	94.5	96	210	E. M. Johns....	Gulf Refining Co., Jacksonville.
877	Gasoline	59.5	48	42	75	94	97	212	E. M. Johns....	Gulf Refining Co., St. Augustine.
878	Gasoline	59.6	52	37	68	91	96	223	E. M. Johns....	Gulf Refining Co., St. Augustine.
879	Gasoline	58.0	54	25	57	90.5	97	222	E. M. Johns....	Standard Oil Co., St. Augustine.
880	Gasoline	58.0	53	25	58	91	97	221	E. M. Johns....	Standard Oil Co., St. Augustine.
881	Gasoline	58.0	55	25	56	90	97	223	E. M. Johns....	Standard Oil Co., St. Augustine.
882	Gasoline	58.0	55	24	56	90	97	223	E. M. Johns....	Standard Oil Co., St. Augustine.
883	Gasoline	59.2	53	31	64	91	97	229	E. M. Johns....	Gulf Refining Co., Jacksonville.
884	Gasoline	59.2	55	31	64	91	97	228	E. M. Johns....	Gulf Refining Co., Jacksonville.
885	Gasoline	59.2	54	31	64	92	97	228	E. M. Johns....	Gulf Refining Co., Jacksonville.
886	Gasoline	58.6	57	30	62	90	97	227	E. M. Johns....	Gulf Refining Co., Jacksonville.
887	Gasoline	59.0	55	31	63	91	97	227	E. M. Johns....	Gulf Refining Co., Jacksonville
888	Gasoline	57.0	52	24	52	90	97	221	E. M. Johns....	Standard Oil Co., Jacksonville.
889	Gasoline	57.4	52	24	52.5	90	97	221	E. M. Johns....	Standard Oil Co., Jacksonville.
890	Gasoline	57.9	49	25	56	91	97	219	E. M. Johns....	Standard Oil Co., Jacksonville.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	Beaume	Initial Boiling Point • C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point • C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
891	Gasoline	58.8	54	25	58	92	97	215	E. M. Johns....	Standard Oil Co., Jacksonville.
892	Gasoline	57.6	53	24	55	91	97	216	E. M. Johns....	Standard Oil Co., Jacksonville.
893	Gasoline	57.2	56	24	54	90	97	219	E. M. Johns....	Standard Oil Co., Jacksonville.
894	Gasoline	57.8	52	25	55	90.5	97	219	E. M. Johns....	Standard Oil Co., Jacksonville.
895	Gasoline	57.8	56	24	54	91	97	217	E. M. Johns....	Standard Oil Co., Jacksonville.
896	Gasoline	58.0	59	22	55	90	97	225	G. B Hills.....	Standard Oil Co., Riverview.
897	Gasoline	58.0	57	22	53	90	96	225	G. B. Hills.....	Standard Oil Co., Balm.
898	Gasoline	58.1	53	22	55	90	97	225	G. B. Hills.....	Standard Oil Co., Lithia.
899	Gasoline	58.0	57	23	54	90	97	225	G. B. Hills.....	Standard Oil Co., Durant.

900	Gasoline	58.3	56	32	69	94	97	210	G. B. Hills.....	The Texas Co., Sulphur Springs.
901	Gasoline	58.3	54	26	60	91	97	224	G. B. Hills.....	Standard Oil Co., Sulphur Springs.
902	Gasoline	58.2	50	26	64	94	97	212	E. M. Johns....	The Texas Co., Jacksonville.
903	Gasoline	57.8	56	24	65	95	97	211	E. M. Johns....	The Texas Co., Jacksonville.
904	Gasoline	58.3	54	25	65	94	97	212	E. M. Johns....	The Texas Co., Jacksonville.
905	Gasoline	57.8	54	23	65	94.5	97	211	E. M. Johns....	The Texas Co., Jacksonville.
906	Gasoline	57.9	53	24	65	94.5	98	214	E. M. Johns....	The Texas Co., Jacksonville.
907	Gasoline	57.9	53	25	65	94	98	212	E. M. Johns....	The Texas Co., Jacksonville.
908	Gasoline	61.6	49	40	78	96	97	195	E. M. Johns....	Gulf Refining Co., Jacksonville.
909	Gasoline	61.6	54	38	77	96	97	197	E. M. Johns....	Gulf Refining Co., Jacksonville.
910	Gasoline	61.6	52	40	78	96	97	195	E. M. Johns....	Gulf Refining Co., Jacksonville.
911	Gasoline	61.6	52	38	77	96	97	196	E. M. Johns....	Gulf Refining Co., Jacksonville.
912	Gasoline	61.6	49	39	77	96	97	197	E. M. Johns....	Gulf Refining Co., Jacksonville.
913	Gasoline	61.6	53	39	76	96	97	196	E. M. Johns....	Gulf Refining Co., Jacksonville.
914	Gasoline	58.6	56	25	65	94	97	210	E. M. Johns....	The Texas Co., Jacksonville.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
915	Gasoline	58.6	56	26	65	94.5	97	212	E. M. Johns....	The Texas Co., Jacksonville.
916	Gasoline	58.6	53	25	63	94	97	212	E. M. Johns....	The Texas Co., Jacksonville.
917	Gasoline	58.6	53	26	63	93.5	97	212	E. M. Johns....	The Texas Co., Jacksonville.
918	Gasoline	58.7	51	25	58	91	97	220	E. M. Johns....	Standard Oil Co., Starke.
919	Gasoline	58.5	51	27	59	91.5	97	220	E. M. Johns....	Standard Oil Co., Starke.
920	Gasoline	59.4	51	34	71	95	97	210	E. M. Johns....	The Texas Co., Ocala.
921	Gasoline	59.5	51	33	70	94	97	210	E. M. Johns....	The Texas Co., Ocala.
922	Gasoline	59.8	50	38	70	93	97	216	E. M. Johns....	Gulf Refining Co., Ocala.
923	Gasoline	59.8	52	37	70	93	97	221	E. M. Johns....	Gulf Refining Co., Ocala.

924	Gasoline	59.8	51	38	70	93	97	219	E. M. Johns....	Gulf Refining Co., Ocala.
925	Gasoline	58.6	52	25	57	91	97	218	E. M. Johns....	Standard Oil Co., Ocala.
926	Gasoline	61.5	49	38	74	95.5	97	202	G. B. Hills.....	Gulf Refining Co., Miami Beach.
927	Gasoline	61.7	49	38	74	95.5	97	200	G. B. Hills.....	Gulf Refining Co., Miami Beach.
928	Gasoline	58.8	51	26	58	91	97	219	G. B. Hills.....	Standard Oil Co., Miami.
929	Gasoline	58.8	56	23.5	57	90	97	223	G. B. Hills.....	Standard Oil Co., Miami.
930	Gasoline	58.7	53	25	62	93.5	97	212	G. B. Hills.....	The Texas Co., Miami.
931	Gasoline	58.7	52	26	62	93.5	97	215	G. B. Hills.....	The Texas Co., Miami.
932	Gasoline	61.6	49	38	76	95.5	97	198	E. M. Johns....	Gulf Refining Co., Jacksonville.
933	Gasoline	61.1	52	37	76	96.5	97.5	199	E. M. Johns....	Gulf Refining Co., Jacksonville.
934	Gasoline	61.4	51	40	76	96	97	202	E. M. Johns....	Gulf Refining Co., Jacksonville.
935	Gasoline	61.4	52	38	76.5	96	97	205	E. M. Johns....	Gulf Refining Co., Jacksonville.
936	Gasoline	61.3	51	37	76	96	97	197	E. M. Johns....	Gulf Refining Co., Jacksonville.
937	Gasoline	61.3	52	37	76	96	97	198	E. M. Johns....	Gulf Refining Co., Jacksonville.
938	Gasoline	58.5	49	26	58	92	97	214	E. M. Johns....	Standard Oil Co., Jacksonville.

OFFICIAL GASOLINE ANALYSES, 1920—Continued.

No.	NAME OF PRODUCT	° Beaume	Initial Boiling Point ° C	% Distillate Below 105 ° C	% Distillate Below 140° C	% Distillate Below 190° C	% Recovered	End Point ° C	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	Florida Standard Adopted	.....	Not Above 60	20	50	90	95	Not Above 225		
939	Gasoline	58.5	51	25	57	90.5	97	217	E. M. Johns....	Standard Oil Co., Jacksonville.
940	Gasoline	58.2	51	25	58	91	97	219	E. M. Johns....	Standard Oil Co., Jacksonville.
941	Gasoline	58.2	57	23	60	93	97	217	E. M. Johns....	The Texas Co. Jacksonville.
942	Gasoline	58.6	47	25	58	91	97	221	E. M. Johns....	Standard Oil Co., Jacksonville.
943	Gasoline	58.3	52	24.5	56	91	97	220	E. M. Johns....	Standard Oil Co., Jacksonville.

DEPARTMENT OF AGRICULTURE—DIVISION OF CHEMISTRY.

OIL SECTION.

R. E. ROSE, State Chemist. OFFICIAL KEROSENE ANALYSES, 1920. E. T. CASLER, **Asst. Chemist.**

Samples Taken by State Inspectors Under Act Approved June 4, 1919.

Deficiencies Below Standard Are Distinguished by Black Face Type.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
263	Kerosene..	115	1.4	44.4	E. M. Johns...	Standard Oil Co., Macclenny.
264	Kerosene..	114	1.4	44.4	E. M. Johns...	Standard Oil Co., Macclenny.
265	Kerosene..	115	1.8	43.9	W. S. McLin..	Standard Oil Co., Live Oak.
266	Kerosene..	128	2.1	41.2	W. S. McLin..	The Texas Co., Tallahassee.
267	Kerosene..	122	2.4	43.4	W. S. McLin..	Gulf Refining Co., Tallahassee.
268	Kerosene..	116	1.8	43.5	E. M. Johns...	Standard Oil Co., Alachua.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
269	Kerosene..	115	1.8	43.5	E. M. Johns...	Standard Oil Co., High Springs.
270	Kerosene..	107	2.1	43.0	G. B. Hills....	Gulf Refining Co., Port Tampa.
271	Kerosene..	115	1.7	43.8	G. B. Hills....	Standard Oil Co., Tampa
272	Kerosene..	130	2.6	41.4	W. S. McLin..	The Texas Co., Pensacola.
273	Kerosene..	129	2.8	42.4	W. S. McLin..	Gulf Refining Co., Pensacola.
274	Kerosene..	116	2.4	42.9	E. M. Johns...	Gulf Refining Co., Jacksonville.
275	Kerosene..	115	1.6	43.7	E. M. Johns...	Standard Oil Co., Jacksonville.
276	Kerosene..	118	2.4	43.6	E. M. Johns...	Standard Oil Co., Jacksonville.

277	Kerosene..	114	2.2	43.8	E. M. Johns...	Standard Oil Co., Jacksonville.
278	Kerosene..	120	1.6	42.2	G. B. Hills....	Standard Oil Co., Key West.
279	Kerosene..	121	2.0	43.3	G. B. Hills....	Gulf Refining Co., Key West.
280	Kerosene..	113	1.8	43.7	E. M. Johns...	Standard Oil Co., Starke.
281	Kerosene..	115	1.8	43.8	E. M. Johns...	Standard Oil Co., Starke.
282	Kerosene..	113	1.6	44.6	G. B. Hills....	Standard Oil Co., Miami.
283	Kerosene..	95	1.6	44.0	G. B. Hills....	Gulf Refining Co., Miami Beach.
284	Kerosene..	120	2.0	43.2	E. M. Johns...	Gulf Refining Co., Daytona.
285	Kerosene..	112	1.5	43.9	E. M. Johns...	Standard Oil Co., Daytona.
286	Kerosene..	120	2.4	42.9	W. S. McLin..	Standard Oil Co., DeFuniak Springs.
287	Kerosene..	120	2.2	43.4	W. S. McLin..	Gulf Refining Co., Chipley.
288	Kerosene..	118	2.8	42.9	G. B. Hills....	Gulf Refining Co., Ft. Pierce.
289	Kerosene..	120	1.6	44.4	G. B. Hills....	Standard Oil Co., Ft. Pierce.
290	Kerosene..	134	1.8	41.2	E. M. Johns...	The Texas Co., Orlando.
291	Kerosene..	111	1.6	43.6	E. M. Johns...	Gulf Refining Co., Orlando.
292	Kerosene..	130	2.0	41.2	E. M. Johns...	The Texas Co., Sanford.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
293	Kerosene..	110	1.6	44.3	E. M. Johns...	Standard Oil Co., Sanford.
294	Kerosene..	112	2.1	43.3	G. B. Hills....	Standard Oil Co., Port Tampa.
295	Kerosene..	112	1.8	42.9	G. B. Hills....	Gulf Refining Co., Port Tampa.
296	Kerosene..	117	2.0	43.8	W. S. McLin..	Standard Oil Co., Madison.
297	Kerosene..	108	2.0	43.9	W. S. McLin..	Standard Oil Co., Perry.
298	Kerosene..	120	2.2	42.7	E. M. Johns...	Gulf Refining Co., Jacksonville.
299	Kerosene..	119	2.4	42.9	E. M. Johns...	Gulf Refining Co., Jacksonville.
300	Kerosene..	122	2.6	43.3	E. M. Johns...	Gulf Refining Co., St. Augustine.

301	Kerosene..	117	1.6	43.6	E. M. Johns...	Standard Oil Co., St. Augustine.
302	Kerosene..	123	3.4	42.5	E. M. Johns...	Gulf Refining Co., Jacksonville.
303	Kerosene..	115	3.0	42.5	E. M. Johns...	Gulf Refining Co., Jacksonville.
304	Kerosene..	114	1.8	43.6	G. B. Hills....	Standard Oil Co., Balm.
305	Kerosene..	131	2.2	41.1	G. B. Hills....	The Texas Co., Sulphur Springs.
306	Kerosene..	125	2.2	41.9	E. M. Johns...	The Texas Co., Jacksonville.
307	Kerosene..	126	2.2	41.9	E. M. Johns...	The Texas Co., Jacksonville.
308	Kerosene..	120	1.6	44.2	E. M. Johns...	Gulf Refining Co., Jacksonville.
309	Kerosene..	120	1.8	43.8	E. M. Johns...	Gulf Refining Co., Jacksonville.
310	Kerosene..	125	2.2	41.9	E. M. Johns...	The Texas Co., Jacksonville.
311	Kerosene..	119	1.4	44.7	E. M. Johns...	Standard Oil Co., Starke.
312	Kerosene..	134	2.2	41.6	E. M. Johns...	The Texas Co., Ocala.
313	Kerosene..	108	2.6	43.1	E. M. Johns...	Gulf Refining Co., Ocala.
314	Kerosene..	118	2.0	43.7	E. M. Johns...	Gulf Refining Co., Jacksonville.
315	Kerosene..	120	1.4	45.1	G. B. Hills....	Standard Oil Co., Miami.
316	Kerosene..	126	2.2	42.1	G. B. Hills....	The Texas Co., Miami.

OFFICIAL KEROSENE ANALYSES, 1920—Continued.

No.	Name of Product	Flash Point ° F	% Residue at 572° F	° Beaume	SENT IN BY INSPECTOR	NAME OF MANUFACTURER AND PLACE TAKEN
	FLORIDA STANDARD ADOPTED	Not Below 100 "Tag" Closed Tester	6	.....		
317	Kerosene..	121	2.4	43.5	E. M. Johns...	Gulf Refining Co., Jacksonville.
318	Kerosene..	120	2.4	43.5	E. M. Johns...	Gulf Refining Co., Jacksonville.
319	Kerosene..	115	1.6	44.6	E. M. Johns...	Standard Oil Co., Jacksonville.
320	Kerosene..	122	2.2	43.5	E. M. Johns...	Gulf Refining Co., Jacksonville.

FILL THE CAN FULL.

FOOD OFFICIALS EXPLAIN HOW DRAINED WEIGHT SPECIFICATIONS HELP CANNER STANDARDIZE QUANTITY IN CAN.

WASHINGTON, D. C., Oct. 1, 1920.—"Fill the can as full of solid food as is practicable by the best commercial methods without impairment of the quality or appearance of the product," is the advice of Dr. Carl L. Alsberg, Chief of the Bureau of Chemistry, United States Department of Agriculture, gives to inquiring canners who state that they cannot in some instances reach the drained weights published by the bureau. "The can that is as full of solid food as is practicable and correctly labeled will meet the requirements of the Pure Food Law with reference to fill, will promote fair trading among canners, and will win the confidence of the trade and the consuming public."

Furthermore, according to Dr. Alsberg, by following such practice the canner will find in nearly every instance that his cans average in quantity very close to the drained weights specified by the bureau. In the relatively few instances where there is material variation, it will be found that either there is some variation from the normal in the density of the product or of some other factor affecting the drained weight, or too little solid food has been put in the can. The canner knows whether or not he is filling his cans as full of solid food as is practicable, and the bureau specialists by an examination of the contents of the can, supplemented by inspection reports on the cannery and comparison with data regarding variations which have been collected by an extensive investigation in all parts of the country, can determine whether the shortage is due to variations from the normal in the character of the materials or to slack-filling.

VARIATIONS FROM SPECIFIED WEIGHTS.

The food official does not use, and the canner need not use the drained weights specified as an iron-clad rule from which there cannot be the slightest variation. The specifications need not be treated with the exactness with which the carpenter uses his measure in determining the width of a doorway, but may be used rather as the locomotive engineer uses the minimum mark on his steam guage to warn him that when the steam pressure falls to a certain point he should give attention to his power in order to prevent his train from falling behind its schedule. It may be that the conditions of grade and load are such that no more steam is necessary, but when the indicator points to the minimum mark set for the engineer's guidance it is time to assure himself on this point or call for more steam. So when the canner finds his drained weights falling below the figures set, he should assure himself that it is not because of slack-fill. If it is due to natural variations which he cannot control, no further attention need be given the matter; but if it is due to slack-fill, as in most instances it will be, the canner is in a position to correct his practice before he collides with the food official.

SPECIFIED DRAINED WEIGHTS FOR GUIDANCE OF INSPECTORS.

It became necessary for the Bureau of Chemistry to determine for the guidance of its inspectors and analysts what the drained weight should be for various fruits and vegetables when put up in accordance with the best commercial practice in order to enforce Food Inspection Decision 144, which among other things provides that the can should be as full of food as is practicable without injuring the quality or appearance of the contents: When is the can as full as practicable? How will the inspector in Maryland and the inspector in Indiana act uniformly in this matter? To answer these and other pertinent questions, the Bureau of Chemistry made an extensive investigation in which it examined thousands of cans of fruits and vegetables put up in different factories under a great variety of conditions. The data obtained were compiled and studied and figures obtained which represent what is a fair indication of the drained weight in the properly filled can under average conditions in the country as a whole. When it is found that a pack varies materially from these figures, it is an indication to the inspector that an investigation should be made to determine whether the variation was due to natural causes or to slack-fill. A variation below the amount specified always indicates that there may be slack-filling, but that fact alone does not establish slack-filling.

The figures on drained weight were published as they were completed for the information of the canning trade. If a canner finds that the drained weights of his products are running lower than the weights specified by the bureau, it is an indication to him that either he is slack-filling or that there is something abnormal in his product or the conditions under which he puts it up. He generally knows or can easily determine whether he is slack-filling or not.

STANDARDIZED WEIGHTS AID INDUSTRY.

It is essential that the quantity of solid food in the can be standardized in order to promote fair trading. Recently the food inspectors found a pack of peas that were slack-filled approximately 8 per cent., which, on the quantity of that pack, represented a difference of several thousand dollars in the cost of the peas to the consumer. It is apparent that the canner who fills his can as full of solid food as practicable will have difficulty in competing with the canner who slack-fills. While the food official is primarily interested in the full can for the protection of the consumer, he is also interested in promoting fair trading among the canners. Slack-filling is demoralizing to the trade and inevitably reacts unfavorably upon the industry which tolerates it.

The Bureau of Chemistry recognizes that there are natural variations in conditions which will cause varaitions in the amount of solid food that can be put in the can. Announcements to the trade giving specifications for the drained weight of different products have in most cases contained a statement to the effect that some variations are to be expected. Much attention has been given, and is now being given, to a study of the factors which cause variations and the relative effect of each. The specialists can now determine in practically every instance whether a variation from the drained weight specified by the bureau is due to unavoidable conditions or to slack-fill.

VARIATIONS INDICATE SLACK-FILLING.

The variations in the quantity of solid food that occur in the same kind of product put up by different canners is not in most instances due to varying conditions beyond the control of the canner, but is generally due to the fact that some canners habitually fill the can as full as practicable, while other canners either intentionally, or by the pracice of improper methods of filling or factory procedure, which can be corrected, continuously slack-fill. Each canner who finds his drained weight running lower than that of good commercial practice, as represented by the bureau specifications, should find the cause as a matter of self-protection and of fair trading, if he does not already know it, to assure himself that the variation is not due to some fault of his methods which he may have overlooked. The assumption of some canners that a drop in the drained weight below the bureau specification is always due to varying conditions beyond the control of the canner is untenable in the light of the fact that other canners in the same territory, with similar conditions of raw materials and finished products, with no variation of density in the food or the liquid or other essential factor, are meeting the specified weights.

Inspectors of the Bureau of Chemistry have been instructed to give special attention to this matter in making inspection of canneries during the current season. and to render all possible assistance to canners in locating the cause of variations from the specified drained weights.

Specifications for drained weights for the following products have been published: Pitted and unpitted cherries, peaches, lima beans, pears, spinach, Swiss chard, beet tops. sauerkraut, green peas, wax and refugee beans. Specifications for the drained weights of other products will, when deemed advisable, be published as the work on such products is completed. Copies of the specifications issued to date will be furnished upon application to the Bureau of Chemistry, United States Department of Agriculture, Washington, D. C.

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